DOCUMENT RESUME

ED 404 555

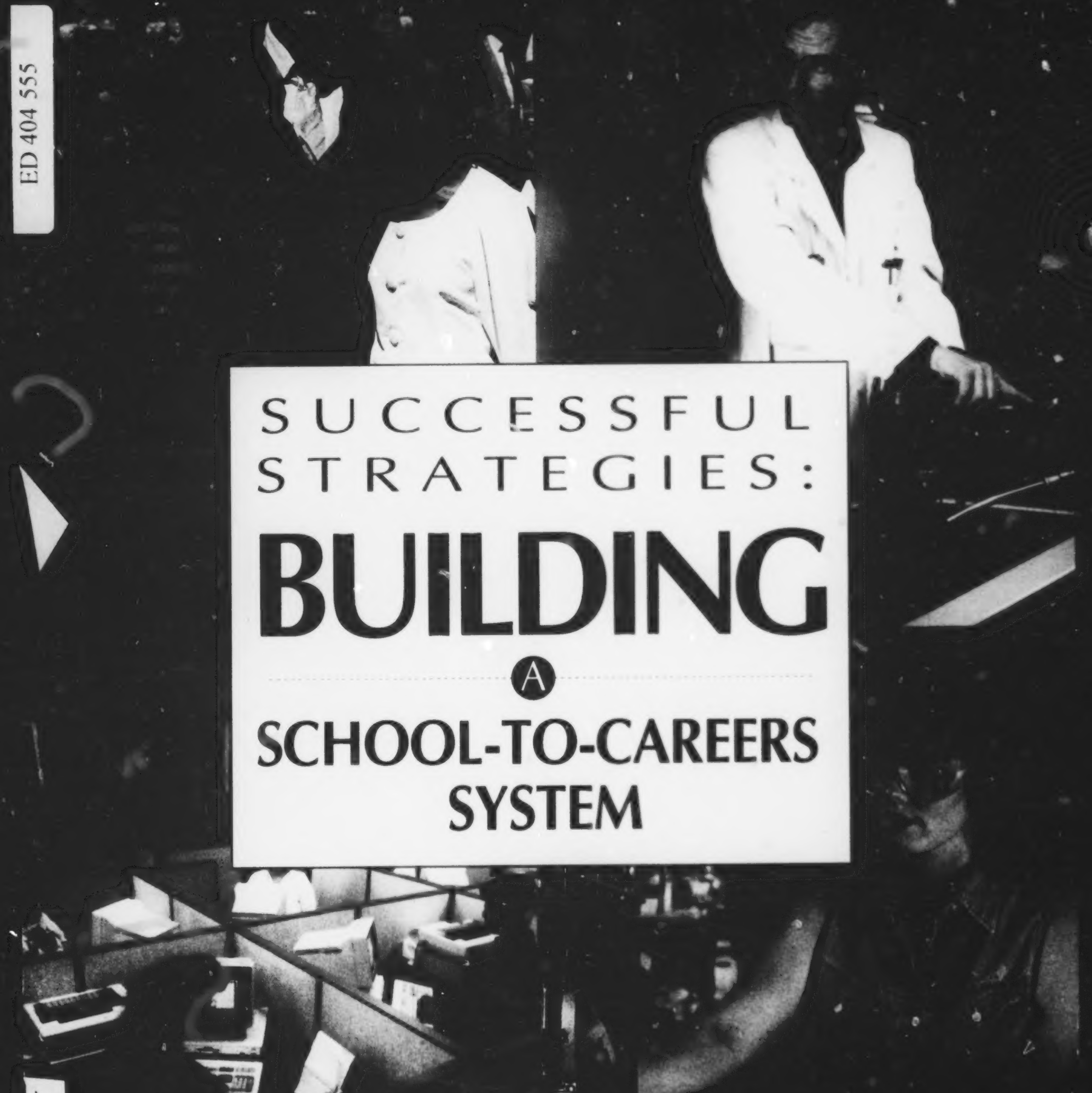
CE 073 604

AUTHOR	Thiers, Naomi, Ed.
TITLE	Successful Strategies: Building a School-to-Careers System.
INSTITUTION	American Vocational Association, Alexandria, VA.
PUB DATE	95
NOTE	373p.
AVAILABLE FROM	AVA Product Sales, 1410 King Street, Alexandria, VA 22314; 800/826-9972; fax: 703/683-7424 (order no. SUCGUI: members $59, nonmembers $79; pack of 5, members $199, nonmembers $299; plus 9% shipping and handling).
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Career Education; Competence; Educational Finance; *Educational Resources; *Education Work Relationship; Employment Potential; Job Skills; On the Job Training; Postsecondary Education; Program Evaluation; *School Business Relationship; Secondary Education; Staff Development; Standards; Student Organizations; *Vocational Education; *Work Experience Programs

ABSTRACT

The following papers are included: "Building a Broad-Based Partnership" (Randy Wallace); "Creating a Partnership Agreement" (M. Amos Clifford, Robyn Flores); "Forming True Partnerships with Employers" (Lee W. Sloan); "Choosing a Model for Your School-to-Careers System" (Patty Williamson); "Case Study: Career Academy Model" (Shirley Earlise Starke); "Case Study: Occupational Clusters Model" (John A. Polto); "Case Study: Tech Prep Model" (Stephen Olczak); "Case Study" (Youth Apprenticeship Model" (Wayne Rowley, David H. Hensley); "Linking Secondary and Postsecondary Institutions" (Don Pirozzoli, Chuck Guay): "Using Skill Standards and Skill Certificates" (Bryan Albrecht); "Writing Your Local Plan" (Eileen Haag); "Developing a Career Awareness Program" (Linda Auman); "Integrating Academic and Vocational Teaching---An Overview" (Gene Bottoms); "Case Study: Integrating Academic and Vocational Teaching" (Joan A. Ford); "Case Study: Integrating Academic and Vocational Teaching" (Jeffrey C. Moss); "Developing Career Majors" (Randol Walker, Roberta Walker, Nancy Dutton); "Using School-Site Mentors" (Marilyn Ash); "Integrating Reforms into Your Current System" (Rene Leger); "Staff Development in School-to-Work Reforms" (Janet Warrington); "Equity in School-to-Work: Serving All Students" (Mary Wiberg, Jenny Erwin); "A Model for Serving At-Risk Students" (Jimmy G. Koeninger); "Developing a Learning Plan and Employer Agreement" (Jill Carpenter, Jim Dawson); "Developing Paid Work-Based Learning Experience" (Elyse Topolsky, Marlene Owens); "Successfully Matching Students and Employers" (Lois Ann Porter); "The Role of Workplace Mentors' (Ellen Dunbar); "Teaching Workplace Competencies and All Aspects of an Industry" (Paul Weckstein); "Creating Work-Based Opportunities in Rural Areas" (Kathy Proctor); "Marketing Your School-to-Work System" (Patty Williamson); "Helping Students Move on from School-to-Work Programs" (Jim Steward); "Evaluating Your School-to-Work System" (Clifton Smith); and "Getting Continuing Funding for Your System" (John O'Malley). Appendixes contain an overview of the role of vocational student organizations (VSOs) in school-to-work programs and lists of state school-to-work personnel, 21 other organizations, 10 VSOs, and state resource centers. (KC)

ED 404 555



SUCCESSFUL STRATEGIES:

BUILDING A SCHOOL-TO-CAREERS SYSTEM

CE073604

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Successful Strategies: Building a School-to-Careers System

Editor
Naomi Thiers

Published by the American Vocational Association
1410 King Street, Alexandria, VA 22314

© Copyright 1995 by the American Vocational Association, Inc.
No part of this publication may be reproduced in any form without the express written permission of the association.

TABLE OF CONTENTS

Preface 1

Section I: Creating Your Local Partnership

Chapter 1: Building a Broad-Based Partnership 5
Randy Wallace
Chapter 2: Creating a Partnership Agreement 11
M. Amos Clifford and Robyn Flores
Chapter 3: Forming True Partnerships with Employers 19
Lee W. Sloan

Section II: Developing Your Local Plan

Chapter 4: Choosing a Model for Your School-to-Careers System 27
Patty Williamson
Chapter 5: Case Study: Career Academy Model 37
Shirley Earlise Starke
Chapter 6: Case Study: Occupational Clusters Model 49
John A. Polto
Chapter 7: Case Study: Tech Prep Model 57
Stephen Olczak
Chapter 8: Case Study: Youth Apprenticeship Model 67
Wayne Rowley and David H. Hensley
Chapter 9: Linking Secondary and Postsecondary Institutions 83
Don Pirozzoli and Chuck Guay
Chapter 10: Using Skill Standards and Skill Certificates 97
Bryan Albrecht
Chapter 11: Writing Your Local Plan 109
Eileen Haag

Section III: Keys to School-Based Learning

Chapter 12: Developing a Career Awareness Program 121
Linda Auman
Chapter 13: Integrating Academic and Vocational Teaching—Overview 133
Gene Bottoms
Chapter 14: Case Study: Integrating Academic and Vocational Teaching 147
Joan A. Ford
Chapter 15: Case Study: Integrating Academic and Vocational Teaching 159
Jeffrey C. Moss
Chapter 16: Developing Career Majors 171
Randol Walker, Roberta Walker, and Nancy Dutton
Chapter 17: Using School-Site Mentors 183
Marilyn Ash
Chapter 18: Integrating Reforms into Your Current System 195
René Léger

Chapter 19: Staff Development in School-to-Work Reforms 207
Janet Warrington
Chapter 20: Equity in School-to-Work: Serving All Students 213
Mary Wiberg and Jenny Erwin
Chapter 21: A Model for Serving At-Risk Students 227
Jimmy G. Koeninger

Section IV: Keys to Work-Based Learning

Chapter 22: Developing a Learning Plan and Employer Agreement 239
Jill Carpenter and Jim Dawson
Chapter 23: Developing Paid Work-Based Learning Experiences 259
Elyse Topolsky and Marlene Owens
Chapter 24: Successfully Matching Students and Employers 273
Lois Ann Porter
Chapter 25: The Role of Workplace Mentors 285
Ellen Dunbar
Chapter 26: Teaching Workplace Competencies and All Aspects of an Industry 293
Paul Weckstein
Chapter 27: Creating Work-Based Opportunities in Rural Areas 303
Kathy Proctor

Section V: Keeping Your STW Program Going

Chapter 28: Marketing Your School-to-Work System 313
Patty Williamson
Chapter 29: Helping Students Move On From School-to-Work Programs 327
Jim Steward
Chapter 30: Evaluating Your School-to-Work System 339
Clifton Smith
Chapter 31: Getting Continuing Funding for Your System 365
John O'Malley

Appendix

The Role of Vocational Student Organizations in School-to-Work Programs 371
School-to-Careers Resources 373

Preface

A year ago when AVA embarked on the development of this book, we had no idea of the extent of the journey we were beginning. It was our goal to meet a need that we were hearing expressed over and over again. Educators were asking for a practical, hands-on, specific guide to putting together a school-to-careers system.

"We don't have to be convinced of the merits of this approach. What we need is information on how to do it," was the message we heard over and over again.

Well, here it is! From planning to evaluation this book puts all of the successful strategies together in one volume. It has been quite an adventure! Over the course of this year, we have been excited and invigorated as we have learned about the hundreds of outstanding programs that exist across the country. We have met educators who have embraced change—in fact demanded it—and have overcome enormous barriers to make it a reality.

The educators and the programs you will meet in this book have brought about education reform in their own communities by overcoming doubts, convincing others that change was needed, showing the way to often reluctant followers and in the end making the educational experience better and more relevant for the students they serve.

Common Threads

As you go through these pages, you will be impressed by the diversity and originality of many of the approaches. However, you will find that there are a number of common threads that run through all good school-to-careers systems. In summary, these common values seem to be:

• **Partnerships**. These innovative educators have not sat in their schoolhouses and talked just to themselves. They have moved aggressively out into their communities, involving business, policymakers, economic development agencies, other community organizations and parents in developing the system that would best meet local needs.

• **Integration.** The artificial barriers that have existed for decades between core academic and vocational-technical education have been broken down. These change leaders have dealt with turfism, elitism and administrative obstacles to bring educators together to meet the needs of the whole student. They have learned the vital lesson that real changes in attitudes and approaches must first begin at home.

• **Linkages.** The secondary educators who have taken the lead in developing school-to-careers systems know that higher education is a viable and increasingly important option for students today. Curriculum has been planned to give students maximum flexibility and solid agreements have been worked out between secondary and postsecondary institutions.

• **Career Awareness/Guidance.** All successful programs must have an effective career guidance program as an integral part of their plan. Helping students make informed choices about their futures is an important role for education and critical to students' ultimate transition to work or further education.

• **Professional Development.** There is a strong commitment to helping staff understand and accept new approaches, teaching strategies and curriculum content. Effective programs have allocated the necessary resources and time to assure that staff are ready for new roles.

• **Work Experience.** Every student enrolled in a school-to-careers program must be assured of a meaningful work experience. Whether job shadowing, cooperative education, internships or projects that introduce them to the realities of the work world, these work experiences are an integral part of all of the programs featured in this guide.

- **Results.** Good school-to-careers initiatives are about results. Their bottom line is to make the educational experience more meaningful and relevant to students and to ensure their successful transition to employment or further education. What these pioneering programs are achieving should be the goal for all educators. All of these efforts have made evaluation of results and of strategies an integral part of their plan. And results are used to make programs better.

How the Book Is Organized

The chapters in this book have been organized into five sections. Section I, "Creating Your Local Partnership," will be invaluable to those of you who are just getting started. It will help you learn who to involve in planning your system and how to ensure their support.

Section II on "Developing Your Local Plan" offers excellent insights into the kinds of approaches to school-to-careers that are being implemented and provides outstanding models of each approach. You'll also get help on linking secondary and postsecondary education, incorporating skill standards into your programs and on how to develop a proposal for funding.

Section III, "Keys to School-Based Learning," addresses the multiple issues involved in making the school experience more valuable. In this section we explore getting schoolwide and systemwide support, career awareness, the integration of vocational and academic education, the role of school coordinators and professional development.

Section IV, "Keys to Work-Based Learning," is full of valuable insights on how to make work experiences true educational experiences. You'll get detailed help on how to develop employer agreements, create paid work opportunities—even where there is a shortage of employers—, make good employer/student matches and provide instruction in workplace competencies and all aspects of an industry. The role of workplace mentors is also explored.

Finally, in Section V, "Keeping Your School-to-Careers System Going," you'll get help in marketing your programs, moving students successfully to careers or further education, evaluation of your program and outcomes and finding funding for the future.

An overview of the role of Vocational Student Organizations in school-to-careers systems and an extensive resource list complete this guide.

Looking Ahead

This is a book to be used—to be referred to over and over again and to become your guide for implementing or strengthening your own school-to-careers system. The educators featured here have all tried and succeeded at improving their educational programs. Yet their endeavors continue to evolve and grow. No one has all the answers, but these educators are always looking for solutions to common problems and for successful strategies!

We realize that there are many other good systems and programs in operation across the country that are not featured here. We hope that educators and their business partners will continue to let us know about their efforts. They will inspire and add to future guides and other materials we will publish on this critical subject.

In conclusion, we want to thank individuals and groups who have been so important in the development of this guide. First, we want to thank the authors and the institutions and programs they represent for so generously sharing their experiences. They are what make this book.

Second, a special word of thanks to the book's editor, Naomi Thiers. Without her fine work, this book would never have been possible.

And finally, thanks to you the readers and implementers of the strategies in this guide. You are the people who make school-to-careers meaningful for millions of students, thus affecting their lives forever.

Ione D. Phillips
Assistant Executive Director for Communications

SECTION I

Creating Your Local Partnership

Chapter 1: Building a Broad-Based Partnership
Chapter 2: Creating a Partnership Agreement
Chapter 3: Forming True Partnerships with Employers

CHAPTER 1

Building a Broad-Based Partnership

By Randy Wallace

Tulare County Workforce Coalition

Visalia, California

Partnerships are the heart of all school-to-careers systems. As a member of the Tulare County Workforce Coalition, I consider the strength of our system comes from the wide representation we have from all sectors of our community. This broad base of participation did not come about overnight. Although our coalition was one of the first 15 local partnerships awarded a grant under the School-to-Work Opportunities Act, our partnership was not formed in response to the passage of STWOA. By the time the act was in place, we were already three years into a broad-based effort to improve the educational opportunities and skills of our most valued resource, the youth of Tulare County.

Forming Our Partnership: First Steps

Initial Dialogue

As is often the case with local reform efforts, the dialogue that began in Tulare County focused on a piece of information that raised community awareness. The information that got us talking was the release of the Department of Labor's comprehensive report What Work Requires of Schools, prepared by the Labor Secretary's Commission on Achieving Necessary Skills (SCANS) task force. In addition to outlining future worker competencies and foundation skills, the SCANS commission emphasized that parents, students, employers and educators must be the key stakeholders of education and job training.

Around the time the SCANS report came out, many businesspeople in our county were discovering that, with the changes happening in their places of business, young people were entering the world of work unprepared to be effective workers. These employers realized that a prepared workforce was crucially needed if any kind of economic development was to take place in our county.

Many of the employers who saw the need for greater workforce preparation were active in the Tulare County Private Industry Council, Inc. (PIC). The PIC is a local entity made up of business, education and community leaders that was created to meet the legal requirements of the Job Training Partnership Act. (The JTPA requires that

Tulare County is a rural area located between the cities of Fresno and Bakersfield in central California. *Agriculture is a major industry in the county, with dairy farming and orange growing being the top businesses. Several manufacturing plants have recently closed and unemployment is high. Ten to twenty percent of high school graduates leave the area. Those with the most skills and education are likeliest to leave. The Tulare County Workforce Coalition encompasses 11 high schools. The student population includes all ethnic groups, including Asian immigrants and the children of primarily Hispanic migrant farmworkers who make up many of the agricultural workers in the area.*

such local councils be put in place to disburse, monitor and evaluate JTPA funds.)

In 1991, at the Tulare PIC's Annual Employment and Training Conference, several PIC directors, including both educators and employers, concluded that the time was right to assertively pursue education/employment partnerships that would prepare students for the changing needs of the workplace. The overwhelming consensus among these PIC directors was that the problems surrounding workplace preparedness and the demands of the workplace of the future were too broad and complex to be effectively remedied by any one agency or institution. We saw that educators couldn't do it alone and the Chamber of Commerce couldn't do it alone. We needed to find a way to collaborate.

As a result of these discussions, several PIC directors asked their staff to begin looking into how the PIC's structure could be broadened to include education, business and community representatives throughout our county.

Bringing Potential Partners Together

As a first step to bringing partners together, the PIC invited more than 100 local leaders—including the principals of all area schools, members of chambers of commerce and key employers—to a viewing of the national video conference sponsored by the Department of Labor titled "Educating to Compete." In inviting key education and businesspeople to this event, we hoped to learn more about how and if partnerships could make a difference in educating our young people. To the surprise of many of us, more than 80 people attended the session. Everyone who attended pledged to work together in an effort to expand collaboration activities across the county. In retrospect, the success of our local collaboration can ultimately be traced back to the shared vision and concern that was expressed at this initial session.

Assessing Needs

One of the important first steps in coalition building is determining the key issues and concerns of each potential stakeholder. Having a sense of each partner's concerns helps establish a "common language" that can be understood by all partners. In Tulare County, we made assessing the needs of all potential partners our first goal.

To do this, we contracted with the National Alliance of Business to conduct a needs assessment of various sectors of our community and then help us bring the different sectors together. NAB has developed a process for helping communities assess their needs regarding education reform and form working partnerships. In May 1992, NAB sent a representative from its regional office to help us initiate this process.

Before conducting the local needs assessment, NAB helped us set up a Steering Committee that would act as a sounding board in developing the needs assessment and would coordinate action on the information it revealed. The Steering Committee—about 15 people—was made up of several PIC directors and people who had attended the 1991 video conference and who represented different sectors of the community.

With the Steering Committee's assistance NAB created a questionnaire to use in interviews with people classified as representing either Community Members (members of a civic group or community-based organizations, parents, church members and so on); Educators (teachers, counselors and administrators) or Business Representatives (owners, supervisors, employees and labor unions). Each group was asked basically similar questions, but slightly different information or opinions were solicited with each group, to uncover their specific concerns. (The box on the facing page lists some of the key questions we asked each constituency.)

Using this questionnaire, NAB conducted personal interviews with 85 people. We identified people to interview by contacting individuals who came to the video conference and asking if they would be interviewed or would direct us to key people in their school district or local business community to interview.

Sample Questions in Tulare County Assessment Interviews

Business Leaders:

- How would you assess the workforce readiness of entry-level workers in Tulare County? Do they have the skills you need? Are they trainable? How do their skills compare to five years ago?
- Are you able to find enough skilled workers? If not, why? What skill deficiencies can you identify?
- In your opinion, how does the business community rate the education of high school graduates in Tulare County?
- Do you feel the schools can better prepare students for the world or work? If so, how?
- What important skills will be required of workers in the next five years?
- What role do you think business should play in education?

Education Leaders:

- What vision do you have for the K-12 public education system?
- What are the key accomplishments within the public schools (programs you admire)?
- What are the key challenges/problems confronting schools in Tulare County now? In the next five years?
- Overall, how do you think business would rate the quality of high school graduates in Tulare County?
- What type of involvement (if any) do you think business should have in education?
- How is business currently involved?
- Do you feel that public education can better prepare students for the work world? If so, how?
- How would you reorganize your school?

Community Leaders:

- What is your perception of the quality of skills of the graduating high school students of Tulare County?
- What is your perception of the public school system?
- What are the major community issues and concerns related to education?
- Do parents feel welcomed in the schools?
- Which is more responsible for the problems facing the schools—school performance or societal problems?
- What does the economic future hold for your community? What are our economic strengths and weaknesses?
- Is it practical for us to believe that we can develop a business-education coalition for improving education in this area? What would be the necessary components? Who should be involved?

All interviewees were asked these key questions:

- Do you believe business, education and the community can work together on issues related to workforce readiness? What are the necessary ingredients? What organization/person could lead this effort?
- How should the findings of these interviews be communicated to the community?

Questioning Skill Priorities

In an effort to verify how important people felt the various SCANS competencies and skills to be, NAB also prepared and distributed a SCANS Workplace Skills Questionnaire. The SCANS questionnaire was sent to everyone who was scheduled to be interviewed. Using this questionnaire, people ranked in terms of importance the various competencies and foundation skills outlined in the national SCANS research. Those surveyed were asked to rate how critical each skill is for students entering the workforce and also where (elementary or middle school, high school, in college or on the job) it is best to teach each skill.

We hoped to use the information gained from the interviews and SCANS questionnaire to facilitate dialogue among partners and help each partner understand how they might meet the needs of the others. It would have been easy to skip the needs assessment step and jump ahead to form committees, develop programs, request funds and so on. But such a decision would have been short-sighted. The partnership's success, in our opinion, was dependent on our ability to stay at the table and work out differences. To do that, we had to learn more about each other.

Forming Action Plans

In July 1992, the Steering Committee met to review the draft community profile NAB had developed from its interviews. We identified key imperatives—categories of actions we could take as educators or employers that would address the needs and concerns different sectors of the community had expressed. Members of the Steering Committee selected the four key imperatives shown on the opposite page, which have served as the basis for our partnership's actions for more than three years.

Formalizing Our Structure

Distributing the Report

The entire report NAB developed based on its interviews (which we called "Building a Quality Workforce: Tulare County Business, Education and Community Profile" or simply the "Community Profile") was published and distributed to educators, businesspeople and other interested parties throughout Tulare County. The Community Profile sums up the main concerns and needs expressed by community participants and includes the four key imperatives. We have also distributed this report to people outside the county who showed interest in our process. About 10,000 people have seen the report by now.

Forming Action Groups

After completing the local needs assessment and helping our partnership create and distribute the Community Profile, the National Alliance of Business helped the Steering Committee commit to continue its work and formalize its structure. At this point we formed the Tulare County Workforce Coalition, which was composed of groups organized to address each of the key imperatives in the Community Profile. Each Imperative Group was composed of original interviewees and other interested parties in order to maintain a strong and consistent blend of experiences and knowledge.

Importance of a Grass Roots Structure

We consider the structuring of our partnership a "grass roots" effort and believe that is one reason for its success. Although the Tulare County PIC initiated the coalition-forming process and was active every step of the way, the PIC never tried to own the process. Members were not assigned by supervisors or made up of interagency leadership teams, but were rather a mix of business owners, employees, teachers and administrators who were willing to volunteer their time to implement strategies that could address the needs identified in the Community Profile. This bottom-up approach has provided stability for our local efforts and given coalition members a sense of ownership of projects and activities.

Although we wanted our structure and action plans to emerge from within our membership, we decided we needed an outside facilitator to help us design our structure and guide our initial imperative group meetings. Using financial support from the PIC, we contracted with an individual who had experience facilitating newly formed coalitions and had some background knowledge of vocational education issues.

The imperative groups decided to meet monthly. We charged each imperative group with investigating the potential activities listed in their imperative, choosing one "do-able" activity and implementing it within one year.

Our Workforce Summit

One of our early successful efforts was the creation of a Workforce Summit, an annual event that brings business and education representatives together to review new information and build partnerships. The Workforce Summit is now held every year in connection with the Tulare County PIC's Employment and Training Conference. At the Workforce Summit, members of our coalition

Key Imperatives of Tulare County Partnership

1. Quality of the Workforce

Actions to provide all students with the basic academic, technical and higher order skills needed to be successful in the workplace, and to prepare students to make future career choices. These actions will address the needs of the business community for an educated workforce, capable of meeting the demands of a global marketplace. These actions will include:

- Strong development of basic skills, including reading, mathematics, writing, communication skills and English fluency
- Technical skill development, which involves computer literacy, keyboarding and word processing
- Methods to enhance student's personal qualities, including building self-esteem, self-confidence and interpersonal skills
- Challenging students to enhance their critical and creative thinking skills, and diagnostic skills
- Workshops and classes in career preparation and goal setting to enhance development of teamwork and customer service models

2. Challenges Facing Tulare County Schools

Actions to address "barriers" and challenges that impede educators and administrators of Tulare County schools from providing educational opportunities and student development. These actions will include:

- Focusing on state and local funding and address community growth that outpaces funding and budget cuts faced by education
- Encouraging more minorities to enter the teaching profession
- Identifying ways to stay current with changing technology
- Focusing on educational opportunities for the non-college bound student, through integrated academic/technical curriculums and additional vocational education classes
- Promoting development of school-to-work transition programs and Tech Prep programs
- Increasing involvement with the business community
- Providing more counseling for special ed students and earlier identification of problem areas and need for remediation
- Placing an earlier emphasis on career goals/preparation
- Increasing opportunities for parental involvement in schools
- Exploring alternative methods of learning, including a non-graded learning environment and year-round schools

3. Role of Business in Workforce Development

Actions that identify resources in the business sector that can work with the education community to provide teachers and students with opportunities for enhanced learning experiences, preparation for future career decisions and a realistic view of the world of work. These actions will include:

- Articulating workforce skill needs/expectations
- Assisting with curriculum development based on industry standards
- Enhancing academic curriculum with real-life examples/experiences for students, including work experience, internships and student-run businesses
- Requesting school transcript/attendance records when hiring
- Participating in career days and providing on-site tours of business facility
- Providing space for adult education/GED classes at worksite
- Becoming active on school boards and education committees

4. Role of Education

Actions that help the education community provide students opportunities to become not only productive workers but also involved citizens. These actions will address the role of education in preparing students for their future. These actions will include:

- Providing a strong academic base, including communication skills, and developing students' higher-level thinking skills
- Presenting activities to prepare students for a global market
- Developing students' job readiness skills, including career counseling and early career awareness
- Teaching in a way that reflects real world work experiences and expectations
- Developing students' parenting and life skills
- Focusing on the importance of education to minorities by providing minority role models/success stories

help local educators connect to interested local businesses to plan collaborative activities that meet their needs. New arrangements for job shadowing, worksite mentoring and work-based learning come out of each Workforce Summit.

Forming a Board and Applying for Funds

Early on, the coalition identified the need for an Executive Board. Members of the imperative groups felt they needed a group of highly visible and connected business, education and community leaders who could cut through red tape and act as a sounding board for action plans or program ideas. At first, the Executive Board mainly reacted to the ideas and requests of the imperative groups. As we decided to apply for federal school-to-work funding, the Board began to take more of a leadership role in the grant-writing process.

It was the school-to-work application process that allowed the Workforce Coalition to establish a set of goals that are now a part of our "Memorandum About Partnerships" (MAP). The MAP is the tool we use to formally acknowledge the participation of and agree on responsibilities of individuals, organizations and businesses who become a member of our Partnership. Using the MAP, our Coalition has been able to formally track commitment, resources and needs of more than 100 individuals and/or organizations who have joined us. In the next chapter, we will discuss more fully how we developed and how we use this memorandum of agreement.

I believe our careful process—assessing the county's needs and allowing the coalition's structure to emerge from the needs of its members—has borne fruit in a solid, broad-based partnership. This representative partnership will ensure that we stay in touch with needs in the community and respond well to changing realities.

Randy Wallace is Director of the Tulare County School-to-Work Transition Project. He served as the Tulare County Private Industry Council's Youth Programs Coordinator for seven years. He was actively involved in forming the Tulare County Workforce Coalition.

CHAPTER 2

Creating a Partnership Agreement

By M. Amos Clifford and Robyn Flores
Tulare County Workforce Coalition
Visalia, California

In 1994 the Tulare County Workforce Coalition, a broad-based partnership of educators and business leaders committed to school reform in Tulare County, California, received a federal local partnership grant through the School-to-Work Opportunities Act. (See previous chapter for more detailed information about Tulare County and the forming of our partnership.)

Before receiving this grant, the Tulare coalition had gone through a three-year process of creating a county-wide school-to-work partnership. With the receipt of the federal grant, the Coalition began to help each of the 10 school districts in our rural county formalize a planning process and create a document spelling out their plans for reform and how responsibilities would be divided among people in their partnership.

The written agreement we helped each school district form (which we termed the Memorandum About Partnerships or MAP) formally described the direction of each community's school-to-careers program over the next year. These agreements were also used to apply for funding for each school district from the grant given to the County Office of Education. Part of the Coalition's goal in this process was to establish a common vision and direction for all the individual school-to-careers projects in the county. The County Office of Education had asked for requests for funds from school districts initially when they were first applying for the federal grant. At that time, they received so many funding requests in such variable format that they realized a more coherent process was needed.

As independent consultants with experience in strategic planning for educational and community groups, we were hired to come up with a process to help each school district plan. We designed an efficient planning process that resulted in a written agreement each school district could use as a foundation for its partnership and future actions. We believe it is possible to adapt this process, described in detail here, to other communities in various stages of school-to-careers program development.

It made sense for the county to assign independent consultants as facilitators of this process. Each site had to cooperate with the others to develop an integrated county-wide plan, yet they were also competing among themselves for a share of limited funds. As facilitators, we did not have any decision-making authority over funding distribution. This helped us remain neutral during the process and bring out the best in each community without displaying bias in favor of any group.

We had to design and implement a planning process under a very tight timeline (about 12 weeks). The process had to include a wide range of stakeholders, giving them a meaningful voice in program planning. Moreover, we knew from our prior work that in some communities many of the important stakeholders would have only a foggy notion of key school-to-career concepts. Therefore, the process also had to be educational and help build a solid constituency of support for school-to-careers initiatives.

In addition, we hoped that our approach would help build enthusiasm. There are many other concerns demanding the time of key stakeholders, including various school reform efforts that are sometimes misunderstood as incompatible or competing with school-to-careers processes. It is not unusual for school staff or boards to feel cynical about or threatened by reform initiatives. Veteran classroom teachers may view the school-to-careers movement as a politically correct "reform of the month," here today and gone tomorrow. Assurances that this time the reform effort will be real and permanent often elicit only a sigh and a roll of the eyes.

We knew it was critical to be sensitive to these concerns, to avoid unrealistic promises, yet to communicate confidence that school-to-careers concepts are in fact the wave of the future. We wanted those we worked with to see that school-to-work is of vital importance to the continuing process of school reform, and that everyone stands to benefit from it. We hoped that a well-designed planning process, and the prospect of receiving a school-to-careers grant from the County Office of Education, would provide motivation to participate.

Preparing for the MAP Process

With these parameters in mind, we settled upon a simple but effective method. We began by developing a kind of template document with standard language to use as the foundation for all the Memoranda About Partnerships. This "instant proposal" included most of the contract language needed for writing formal agreements between the County Office of Education and each school district. We envisioned that a detailed description of the school-to-career goals the community would pursue in the next year would be added later, along with measurable objectives and a brief description of the activities planned to implement these goals. This template document was typed in a word processing program and saved as a "stationery" file, which we then installed on the laptop computers we would carry as we visited each site.

A companion document was a budget template, written in a spreadsheet program (we used Microsoft Excel, but other spreadsheet software programs such as Lotus 123, would work equally well). We also installed this document on our laptop computers. The budget template included formulas for quickly calculating salaries based upon full-time equivalents, benefits based upon percentages of salaries and operating line items.

Also during the preparation phase, we developed a 62-item "Diagnostic Checklist" to help school districts assess the current status of their school-to-careers programs. The questions were arranged within five broad dimensions:

- Management and Evaluation
- School-based Activities
- Worksite-based Activities
- Connecting Activities
- Coordination with Other Sites and County Workforce Coalition.

On the facing page is a slightly edited and condensed listing of the items on the checklist. We field tested and refined this instrument, then wrote a database in Filemaker Pro software to score and analyze the data collected from each site.

While we developed these tools, Tulare County Office of Education had each school district identify a site coordinator, who would act as a leader in school-to-work planning and as a liaison with the Office of Education. Each district also appointed site panels of 10 to 20 people who would actively participate in planning. The Office of Education stressed that these site panels needed to be representative of all stakeholders, including not just educators but businesspeople, parents, students and labor leaders. We worked with the site coordinator and site panels in creating the MAP.

To standardize the planning process and help community members better understand their role in school-to-careers planning, we wrote a booklet titled "Partners and Programs: Planning Tools for School-to-Career Programs in Tulare County." This book includes an overview of the Tulare County

Diagnostic Checklist for Tulare County School Districts

Following is a slightly condensed listing of the items on the diagnostic checklist used to evaluate the strengths and weaknesses of each school district's school-to-work efforts to date. Site panel members were asked to rate each statement on a continuum from strongly disagree to strongly agree.

Management and Evaluation

- Programs at this site are reviewed and advised by coalitions of community partners.
- Advisory partnership includes decision makers from schools, employers, employer associations, local government, community-based organizations, employee organizations and unions, parents and students.
- Program mission, goals and priorities and roles and responsibilities of partners have been established and clearly communicated.
- Fiscal responsibilities, administrative duties, decision-making authority have been established and clearly communicated.
- School-to-Career programs are integrated with other education reform and planning efforts.
- The program regularly collects and analyzes evaluation information on student outcomes.
- Evaluation information is used in making program management decisions.
- Employers and school personnel have the means and responsibility to assess, validate and report on the successful acquisition of skills by the students.
- There are regularly scheduled evaluations to benchmark and track student progress.

School-Based Learning

- Academic courses integrate technical skills.
- Technical/vocational courses integrate academic competencies.
- School and workplace integration begins at an appropriate grade level.
- Students reflect on work experiences in their academic coursework
- Student assessments include integration of academic and vocational/technical knowledge and skills.
- School counselors and teachers support student career path choices and workplace activities for all students.
- High school program allows movement between different career pathways.
- Postsecondary credit or advanced standing can be earned while in high school.
- Advanced placement in postsecondary programs is guaranteed upon successful completion of high school component of the program.
- Effective procedures exist to facilitate entry of participating students into additional training or postsecondary education.
- Academic courses and technical training are accepted by local and regional postsecondary institutions.

Worksite-Based Learning

- Instruction is provided in general workplace competencies and interpersonal skills.
- Employers provide structured worksite-based learning and work experience.
- Worksite placement criteria are understood by everyone involved.
- Employer placements are available for all participating students.
- Students are effectively matched with employers.
- Students develop learning and training plans with teachers and workplace instructors based on an established technical training plan.
- Mentors are provided for each student.
- Students are engaged in real, productive work.
- Students are exposed to all aspects of an industry.
- Work-based activity explicitly reinforces academic and technical lessons.
- Employers and educators jointly design outcomes.
- Employers and educators participate in curriculum development and approval.
- Advancement at the worksite is based on student knowledge, skill level and performance.
- Responsibility for liability, insurance and workmen's compensation for students is established.

Connecting Activities

- Academic and technical courses reflect employers' expectations of what students should know and be able to do.
- Project-based opportunities to integrate technical and academic learning are provided.
- Adequate collaborative planning time is provided for interdisciplinary teams.
- Interdisciplinary teams develop specific learning objectives, courses and lesson plans.
- We exchange information with school-to-career programs at other sites.
- Our programs effectively promote public awareness of and support for school-to-work activities.
- We have developed a plan to sustain funding and other resources.
- Staff are familiar with the goals of the Tulare County School-to-Career Initiative.
- We have used the Tulare County Workforce Coalition as a resource.

BEST COPY AVAILABLE

Workforce Coalition (the driving force behind our school-to-work programs), its goals, objectives and principles, an explanation of the MAP-making process, Diagnostic Checklists, example MAPs and budgets and other planning tools. Every member of every site panel was given a copy of this booklet.

The flow chart opposite shows the steps involved in the process of creating the Memorandum About Partnerships.

Implementing the Process

Preparing for Site Panel Meetings

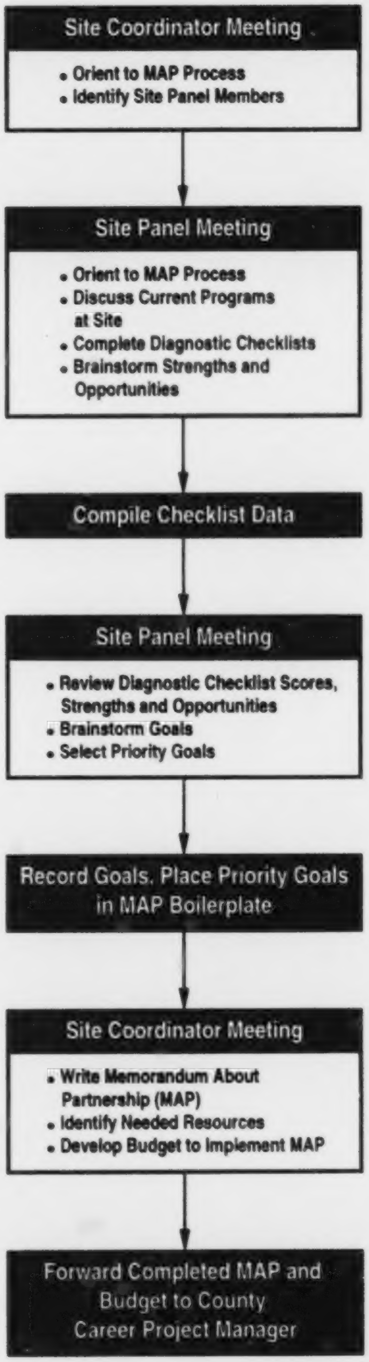
To get the ball rolling, we first met individually with Site Coordinators to orient them and other key staff to the MAP process, and to help them identify stakeholders to include as members of the site panel. In each community there is generally a core group of individuals who readily embrace school-to-careers concepts. We found that it was important to generate a list of actual names at this first meeting, rather than simply discussing categories of stakeholders and leaving it up to the site coordinator to build a list of potential participants later.

First Site Panel Meeting

After the first meeting, the site coordinator scheduled a meeting with the entire site panel, usually about two weeks later. At this meeting we described the school-to-careers planning process and the MAP. Generally, there were many questions about the county-wide school-to-careers initiative and its relationship to local efforts. We answered these as best we could and kept a list of questions for the county's School-to-Career Project Director. Between meetings, the director provided us with guidance so we would know how to answer the same questions when they surfaced again. However, at almost every meeting new questions arose from our open discussion format. This reinforced the importance of allowing the educational process to unfold as we planned.

Once the general purpose of the meeting was established and the relationship of the local effort to the county-wide effort was understood, participants

Major Steps in MAP-Making


Site Coordinator Meeting
• Orient to MAP Process
• Identify Site Panel Members
Site Panel Meeting
• Orient to MAP Process
• Discuss Current Programs at Site
• Complete Diagnostic Checklists
• Brainstorm Strengths and Opportunities
Compile Checklist Data
Site Panel Meeting
• Review Diagnostic Checklist Scores, Strengths and Opportunities
• Brainstorm Goals
• Select Priority Goals
Record Goals. Place Priority Goals in MAP Boilerplate
Site Coordinator Meeting
• Write Memorandum About Partnership (MAP)
• Identify Needed Resources
• Develop Budget to Implement MAP
Forward Completed MAP and Budget to County Career Project Manager

completed the 62-item "Diagnostic Checklist." Each of its five parts were completed, then discussed before moving to the next part. The discussion phase was very important, because the items on the Diagnostic Checklist highlighted for participants the possible scope and range of school-to-careers activities. It helped them identify what questions they should be asking of each other. For example, a business participant realized that job shadowing opportunities could be integrated with course curriculum and was able to ask an educator detailed questions about how this could be accomplished.

As facilitators, we felt that we were often treading a difficult line between letting the group have what was obviously much-needed time for basic discussion and sticking to our agenda. We realized that open discussion time in meetings of stakeholders is a rare and precious commodity, and its very rarity is a significant obstacle to effective school-to-careers planning.

Group discussions also allowed participants to assess the current strengths of their programs, and to identify opportunities for "logical next steps"—program development strategies that would best build on existing strengths. We carefully recorded all the information group members offered.

In the interval between the first and second panel meeting, a time period that was usually about two weeks, we compiled the data we had gathered at the first site panel meeting. Scores from the Diagnostic Checklists were entered in the computer database, which then generated reports detailing the concerns and perceived strengths and weaknesses of each school district. Ideas on strengths and opportunities were entered in a separate datafile. Each entry included information on what category of stakeholder (for example, student, parent, businessperson) contributed the data. We also noted which community the information came from.

Thus, as data accumulated we were able to use the databases to quickly sort and compare scores of, say, teachers and administrators, or businesspeople and community-based organizations. This information should provide a basis for evaluation in future years, as we continue to track changes and trends in Diagnostic Checklist scores within stakeholder category, by community and for the county as a whole.

Second Site Panel Meeting

The second meeting at each site began with a review of the scores from the Diagnostic Checklist. Again, this was done one category at a time. For example, we reviewed the scores for "Management and Evaluation," then the group reflected upon and discussed the scores. There was consistent agreement that scores accurately reflected the group's perception of the status of their program, suggesting that the Checklist instrument has adequate validity to perform its function. The group also reviewed the compiled list of ideas about strengths and opportunities gathered at the previous meeting. This allowed the group to further reflect upon and discuss its progress, leading naturally into development of goals.

After we reviewed each category, groups brainstormed potential goals for the upcoming year. We encouraged participants to build upon their strengths, but to also consider goals that would correct any major gaps in their programs. Thus, if the assessment process raised awareness of the need for more meaningful involvement by a greater number and variety of stakeholders, meeting this need was often listed as a goal.

After goals were listed for all categories—usually three to five goals in each category, 15 to 25 altogether—panel members voted for those they felt were most important. We allowed each individual five votes. They could use up to two votes on any single item. By this process, goal priorities were established.

By far, the most common goal to emerge (although stated differently from site to site) was to develop a more comprehensive plan and strategy for school-to-career programming.

During this stage a few instances of mild conflict emerged. Certain teachers felt held back in their efforts to teach a relevant curriculum by lack of current technology resources, such as up-to-date computers, software and so on. These teachers advocated using school-to-career funds to purchase these much-needed learning tools. It was a bitter disappointment when the group voted for other priorities.

However, because the process we used was clearly inclusive and fair, there did not appear to be any lasting negative outcomes.

After the second panel meeting, we recorded the goals established by the community in a "Goals Tracker Database," again written in Filemaker Pro. This database allows us to easily compile lists of goals and print them out by category, community, or both. The box on the facing page lists some of the goals commonly identified by the Tulare County school districts during this process.

The MAP-Making Meeting

Within a week or two after the second site panel meeting, we met with the site coordinator. Usually two or three other key individuals, such as school principals, chamber of commerce representatives or other community leaders were present at this meeting. We brought our laptop computers along, with the template MAP and budgets installed.

These meetings began with a review of the goals set during the two site panel meetings and a discussion of existing school-to-careers resources, such as personnel time dedicated to school-to-careers program development. We captured ideas as they were generated, typing them directly into the MAP in the form of goals, objectives and activities. If a compatible printer was available, we printed the draft MAP and reviewed and revised it right there in the meeting. If not, we read it aloud from the screen, editing as we worked through it.

We then turned to the budget, again using the template pre-installed on our laptops. Here we discussed what resources would be needed to implement the activities identified on the MAP. These were listed as we went along, and budget figures were attached. The site's contributions were also identified and listed in a "Matching Funds" column on the budget spreadsheet. Within a half-hour we had a finished budget.

The most commonly proposed use of grant funds was to hire school-to-work program coordinators within school districts. Another common request was for substitute teacher time to enable interdisciplinary teams of teachers extra time to design career pathways, articulate curricula and integrate subject matter.

In some instances the finished proposal, consisting of the MAP and budget, requested more funds than the school district had asked for the first time the Office of Education solicited proposals, when they were applying for a grant. Obviously there would not be enough funds to meet each request completely. Rather than trying to resolve this problem during the MAP-making process, we encouraged sites to ask, within reason, for the resources they felt they needed to do the job right. The county School-to-Career Project Director, meeting with an advisory group of six to eight members of the County Workforce Coalition, had the role of negotiating final agreements, including compromise budgets.

After the MAP-making meeting we returned to our office and reviewed the final documents, making minor corrections of grammar and wording. We then faxed them to the site coordinator and the countywide coordinator for review and revision. Few revisions were requested by sites, attesting to the effectiveness of this process. At the time this chapter was written, final decisions regarding allocation of funds to sites had not yet been made.

Variations on the Process

Only in perhaps half of the 10 sites did we follow the process exactly as described above. In the others, we found it necessary to modify our approach to fit the needs of the site and community. For example, one community has a well-established career pathways program, supported by a thorough and thoughtful strategic plan which includes goals and objectives. Although the panel appreciated the Diagnostic Checklist, it would have been redundant—and might have alienated panel members—to go through a detailed goal-setting process. With this community, then, we were able to condense two meetings into one. On the other hand, the site coordinator invited most of the panelists to participate in the MAP-making meeting. Consequently, the MAP-making process required more time than at

Common Goals

Connecting Activities

- Create an interdisciplinary team of educators, employers and community members to begin a dialogue about school-to-careers programs and opportunities.
- Increase staff awareness of real-world business/workplace applications of skills and knowledge and increase industry awareness of real-world challenges faced by educators.
- Increase the use of work-based learning experiences in academic courses.
- Enhance communication and coordination with all community colleges/universities and other training institutions and opportunities.
- Increase the articulation of secondary and postsecondary curricula.
- Increase employer and community participation in designing learning outcomes and developing and approving curriculum.
- Increase public, community and parent awareness of school-to-careers programs.

Coordination

- Expand involvement with the grass roots partnerships and the Tulare County Workforce Coalition.
- Increase coordination between various school-to-careers programs within the school district.
- Build connections with local Chambers of Commerce to expand the business network.

Management and Evaluation

- Develop a plan, including a mission statement and goals, for school-to-career programs in our community.
- Develop a plan to sustain funding for local school-to-work programs.
- Establish student content and performance standards for each career path.
- Clarify roles and responsibilities of business school partners.
- Develop and implement an evaluation plan that provides both ongoing and summary information for individual student outcomes, each career path as a whole and progress toward achieving the overall school-to-work plan.
- Establish criteria for evaluating and monitoring partnerships, including students, teachers and business/community partners.
- Increase the amount of time allocated to planning, managing, organizing and evaluating school-to-careers programs.

School-based Activities

- Set appropriate performance standards for academic, workplace, problem-solving and critical reasoning competencies and develop comprehensive programs to enable students to achieve these standards.
- Establish a clear understanding by parents and students, beginning in early elementary grades, of career paths and related choices.
- Expand, enhance and clarify portfolio strategies, creating an overall district vision for implementation of portfolios.
- Increase the time available in the normal daily schedule of staff/teachers to make contacts and monitor worksite placements.
- Increase staff and students' access to and skills in, appropriate technology.
- Develop a formal method for wide recognition of students' achievements through school-to-careers programs (for example, credit for job shadowing).
- Continue and expand the job shadowing program.
- Expand appropriate and meaningful lifelong learning options for diverse adult populations.

Worksite-based Activities

- Develop a method to evaluate what students are learning at worksite placements.
- Offer opportunities for boys and girls to be exposed to nontraditional career opportunities.
- Establish partnerships with employers, including nontraditional careers through utilizing existing networks, outreach to local businesses and the county-wide Workforce Coalition.
- Assist with arranging for transportation by utilizing existing resources.

other sites, but this approach had the advantage of fostering greater understanding at a more detailed level of program operations.

Two sites were very late in joining the process. Due to the summer timing of this process, it was understandable that these districts were closed and staff was on vacation. When staff returned, we were on a very short deadline. Necessity being the mother of invention, we found that we could shoehorn the entire process into one long meeting, followed by another breakout session in which a few participants drafted the MAP and budget. This arrangement was not ideal, but the overall effectiveness of our process was maintained. The greatest loss was of the opportunity to discuss school-to-careers concepts at length within the group. We don't recommend using the abbreviated approach, unless it can't be avoided.

In at least one case, we had a major misperception about one of the school districts that we had to clear up to help them with planning. The school district seemed to us to be lacking in motivation for school-to-work planning. In fact, they were very motivated, but their willingness to act was hampered by a misunderstanding on the part of the site coordinator. The coordinator believed that cooperation with the County Office of Education would be unfavorably viewed by the Private Industry Council. He imagined that the two agencies were in competition with each other—far from the actual case, since the two agencies had worked closely together to develop the county's Workforce Coalition, which had in turned laid the groundwork for the successful federal funding proposal. It required about two minutes of explanation to overcome this imaginary obstacle, once we knew what it was.

This event highlighted the importance, in school to careers planning as elsewhere, of clear and above board communication among the various parties involved. We as facilitators played a critical role in providing clear, unbiased clarification of concerns. We spent a substantial amount of time on the phone communicating with the Project Director about questions that came up with sites. We also had to grapple with the issue of inclusion and keeping people involved throughout the entire process.

What We Learned About the Process

The process we used to come to a written agreement of understanding was effective and very well received by the participants. It allowed us to meet our goals and worked well within the conditions we faced. Moreover, we gathered a substantial body of information that we can use as baseline data to assist with future evaluation of progress made by local programs. We will repeat this process next year, with some modifications. Most important, we will begin earlier in the year to catch people before they take their summer vacations. We will condense the planning book, using only those pages we found most essential.

If we were to add a step, it would be this: After all sites had completed the second site panel meeting, and before any MAPs were drafted, site coordinators from all communities would come together for a county-wide summit meeting. At this summit they would each present their community's school-to-career goals. Then each coordinator would brainstorm to shape local programs to gain the most benefit from, and add the greatest support to, the work of other communities in the county.

Reaching Consensus

We believe we have created a process for developing an agreement of understanding that can be used in many different kinds of school-to-work partnerships in many kinds of communities. Our process allowed school districts to apply for and receive funds in a fair, orderly way. But its ultimate value does not have to do with funding, but with helping communities reach agreement on specific plans and allocation of responsibilities—consensus that allows school-to-work partnerships to move forward.

M. Amos Clifford and Robyn Flores are education consultants in Tulare County with experience in grant writing and strategic planning.

CHAPTER 3

Forming True Partnerships With Employers

By Lee W. Sloan
Del Mar College
Corpus Christi, Texas

A key challenge in building a school-to-work system is involving employers in a way that encourages full participation.

In my work with the Texas Business-Education Coalition, which the Texas Chamber of Commerce created to focus on education issues, I have helped set up coalitions of educators and employers throughout Texas. I frequently hear employers' perspectives on school-to-work. Educators are often surprised when I tell them that most businesspeople are eager to get involved in creating school-to-work systems.

The chance to enter into a real partnership with educators and to have a real say in how schools prepare young people for the future is the only incentive employers need to become fully involved in school-to-work reform efforts. If we tell businesspeople "We want you to be full partners. We will change how we educate students according to what you say you need," they will beat down our doors to work with us.

The key is to establish true partnerships and true collaboration. In working with coalitions in Texas, I have seen what works and what doesn't in bringing employers to the table.

Create the Structure Together

Successful school-to-work programs need two levels of employer involvement: community-wide and workplace-specific. The community-wide partnership with employers builds support for the school-to-work system, identifies barriers and probable solutions, encourages employer and student participation, helps design professional development activities, markets the program and helps evaluate and modify the system as needed. The workplace-specific partnership arranges the programmatic details of each student's workplace experience, such as developing a learning plan and assigning a workplace mentor.

Start With Day One

To gain effective community-wide support from employers, the school-to-work planning body must be created with careful deliberation—and with local businesspeople involved from the very first discussions. One of the main criticisms of vocational educators is our propensity for creating committees and expecting community employers to serve on all of them. Businesspeople often say they feel abused by educators who ask them to devote their full attention to many fragmented parts of improving education. Employers often aren't given the big picture of education reform and aren't given a chance to be full partners with educators and have a say in reforms.

Richard Myers, executive director of the Coastal Bend Business Roundtable—a national business-based organization that promotes business involvement with the education community—sums up the employer's perspective:

> *Educators tend to establish separate committees for each educational program or issue,*

> *plan the meetings, establish the agendas, develop the proposals, request industry's endorsement and expect business and industry to be active participants. They then become concerned with the lack of commitment and project ownership by business-industry representatives. Yet, when it comes to substantive issues, business is generally not asked to participate in the early discussions.*
>
> *If educators want the active participation of business and industry, they should become involved in those community-based organizations that represent business and have educational or workforce development agendas.*

I present his concerns here not to criticize educators but to show the depth of employers' desire to be brought in from the beginning of the process and to be part of the big picture.

Before creating an organization for school-to-work, attend some of the local business associations, such as Chambers of Commerce, economic development boards, business roundtables or organizations connected to a specific profession. Most of these organizations have a concern for education issues. Discuss with them the concept of school-to-work and ask for suggestions for an appropriate organizational structure.

More often than not, at least one group will be very concerned with the school-to-work issue and will want to become involved. It will be easier to bring educators and other required representatives into an established, community-based organization than to try to create employer dedication to a new initiative designed by educators.

Target Key Businesses

Labor Market Analysis

Before you approach employers to work in partnership with them, you will need to decide which employers to approach. Rather than taking a scattershot approach, you will want to identify which local employers are most representative of the community or most likely to be strong partners and solicit their involvement. A critical first step in deciding which local businesses to approach is an analysis of the local labor market and state or national trends.

In creating a school-to-work system, complete an in-depth analysis of the local labor market to identify the skill needs of employers in high-demand, high-wage careers. A similar analysis is needed to highlight the categories of employers who should be represented in the partnership creating the school-to-work system.

One reliable source of labor market information is the National Occupational Information Coordinating Committee's data network and the State Occupational Information Coordinating Committee's (SOICC) data banks. All states will have the resources of a state employment commission, state comptroller or other agency that collects and analyzes labor market data and makes it available to local communities.

Most communities also have a Chamber of Commerce or economic development board that compiles information about the trends in the local labor market. Other local sources of information include labor organizations, business-professional associations and business-education coalitions. Utility companies usually have an excellent composite profile of the business community and may be able to offer their assistance in developing a local labor market analysis.

The information you will get from your SOICC's database will reflect jobs that have been prevalent in your area in the recent past. Such data will not reveal emerging job trends or industries that are likely to start or expand in your area soon. For information on industries where growth is predicted, you will need to contact your local economic development corporation or board. In your labor market analysis, consider both the historical data showing industries well established in your area and the data on emerging trends.

Likely Partners

Businesses that are generally open to partnerships with the education system include:

- The local utilities, such as communication systems, electric and gas companies
- The medical/health industry
- The hospitality, tourism and restaurant industry

- Retail businesses
- Banking and finance institutions
- Some aspects of the construction industry.

In areas with limited industry, public sector employers will often become active partners.

Another national organization keenly interested in school-to-work is the Associated Builders and Contractors, Inc., with chapters throughout the United States. These ABC chapters are very concerned with the decline in available skilled craftspeople and have designed their own curricula to prepare future workers for the numerous construction careers. Many schools already have a working relationship with a local ABC chapter that could be expanded into a partnership for creating a school-to-work system and providing work-based learning.

The Texas Story

Texas has developed a mechanism to analyze which employers are important to include in a given area. The state is organized into 24 Quality Work Force Planning Associations. These associations determine labor market trends for each region and publish an annual listing of targeted occupations, based on high wages, occupational growth and demand. The state also publishes a listing of the state-wide targeted demand occupations and a list of critical, emerging industries.

The associations rely heavily on the Texas Department of Commerce's labor market information network, SOCRATES, which provides a historical analysis of labor market demands. This information is linked to local economic development data, surveys and direct employer contact to provide each region with the most current occupational data for planning purposes. Each region identifies a list of key industries, which is used as the foundation for representation in the school-to-work partnership with employers.

Your state employment office should be able to tell you whether your state has a similar system for analyzing the labor market by region. If so, use that data to ensure that all major employer categories are involved in your local partnership—from the beginning if possible.

Obtain Employer Commitments

After identifying key businesses that are representative of your local labor market, the next task is to obtain the commitment of the employers. There are several strategies for involving key employers from the very beginning.

Go to Them

Don't assume the best way to reach employers is to send them a letter inviting them to a meeting at a school or other education-related site—or even to a meeting set up by educators. "Us" always inviting "them" to "our" meetings is one of the problems. It is really best to try to meet with employers on their turf—either at the workplace or at a meeting of a local employer group.

One approach is to ask a businessperson with whom you have a relationship—such as an employer in a co-op program—to invite you to speak at a meeting of the Chamber of Commerce or similar group. It is also effective to meet individually with employers. Be sure you get in touch with the person most likely to make key decisions, such as the plant supervisor or CEO. Contact that person, tell them you'd like to discuss their ideas about how education can better prepare students for the workforce and set up a time to talk briefly.

When I was getting business leaders involved in setting up local coalitions in Texas, I contacted numerous employers, indicating that I wanted to listen to their ideas about changing the system. I found employers were usually willing to meet with me individually, but because they're busy people, these meetings must be kept brief. When you meet with them, get to the point—don't spend too long shooting the breeze—and ask them for their ideas on designing a program.

Use Your Existing Contacts

It is important to work with employers with whom you already have a relationship, such as those involved in the co-op program. Explain that you want to expand the co-op concept to give all students appropriate work-based learning experiences in school. Ask for their help in identifying the key businesspeople in your community and in gaining access to meetings of employer groups.

Listen Before You Speak

Spend a lot of time listening to the discussions of employers regarding their concerns for a future workforce. You may hear a bashing of the education system, but resist the urge to become embroiled in a defense of the system, teachers and administrators. Listening will also help you identify individuals who are particularly concerned or articulate and who may be willing to brainstorm ideas to improve the education system.

Speak to Their Concerns

When talking about school-to-work, address the worries likely to be on employers' minds. Business and industry are very concerned about developing their present workforce to meet the standards of global competition—and preparing their future workforce. Professional journals and trade magazines are replete with articles about the poor basic skills of job applicants, the dropout rate of public schools, the low achievement level of the average public school graduate, the high cost of worker training and so on. Much of the private sector has already realized that they must join with educators to create workers with the skills necessary to continue learning on the job.

The best argument for obtaining commitment from business and industry for school-to-work partnerships is that the survival of business depends on the quality of the school systems and the ability of students to move from school into the labor market. Tell businesspeople that schools need them to prepare students for this transition. Stress that, through work-based experiences, students will come to understand the need for communication and computation skills, science and technology and the social sciences. Students will learn these skills and knowledge in a setting that requires teamwork and problem-solving and demands quality products and service. Schools cannot provide these experiences alone, nor do they have the technology found in the private sector.

Remind employers that the huge outlay of money they currently spend for the training and development of their workers could be greatly reduced if students completed high school or college with basic and occupation-specific skills in place. For example, IBM spends $30 million annually for remedial education, dollars that could be better invested in improving our basic education system and advancing the technological skills of workers. Mention that their competitors around the world already have business-education partnerships. Show them that partnerships with the education systems will provide a more effective way to prepare workers and will save money.

Most employers will quickly grasp how involvement in school-to-work can benefit them and will be eager to join efforts if they are invited as full partners. If employers need more convincing, explain how they can benefit from working in a school-to-work partnership. The box on the following page lists key benefits to employers of getting involved in a school-to-work system.

The school-to-work concept should be presented as a grade-appropriate, extended learning experience for all students. Explain clearly that it is not a high school program, a program for vocational students, or an opportunity for students to leave school to go to work

Be Open to Other Concerns

When approaching business leaders about participating, educators must be willing to discuss all aspects of the educational enterprise. The school-to-work transition will be only one of many issues to be addressed. This opportunity for open, honest dialogue and discussion will build trust and make your partnership cohesive and committed. Essential elements for such trust and cohesion are shared leadership, jointly planned agendas, action-oriented meetings and activities and the commitment from education and business to make the process work.

Examples From Texas

In Texas, both state-wide and local coalitions on education reform issues have gained broad employer participation by bringing key employers into the process from day one. In many instances, businesspeople, not educators, have taken the initiative in forming partnerships.

Key Benefits to Employers of Involvement in School-to-Work

- Provides employers a major role in redesigning the focus of the schools and the workforce education system for the majority of our youth.
- Gives employers a public platform for identifying and reinforcing the educational and workplace competencies needed by students leaving the education system.
- Provides an opportunity for more local control in designing and implementing a national initiative to transition youth into the workplace.
- Results in a better prepared workforce with the skills to enable business to compete in the global economy.
- Gives employers a unique opportunity to determine how tax dollars are used in preparing youth for work.

Local Coalitions

One state-wide organization focused on education issues, for instance, the Texas Business-Education Coalition is actually a committee of the Texas Chamber of Commerce. TBEC has actively sought links with education. The coalition includes senior-level executives from major Texas corporations (such as Bank of America, Shell Oil and Texas Instruments), the Commissioner of Education, Commissioner of Higher Education, local superintendents, deans of the colleges of education, state PTA representatives and teachers.

TBEC reviews educational issues, sets priorities, establishes positions and advocates these positions to legislators and regulatory agencies. Members of the coalition do not agree on all issues, but they strive to find common ground on which everyone can concur. Although every community within the state is not represented by the coalition, the members are committed to promoting the philosophy of the organization to their various divisions and offices across the state.

One of TBEC's initiatives has been to establish local coalitions of educators and businesspeople around the state. These coalitions provide a platform for local teachers and the business community to discuss their concerns. TBEC hopes to establish a local coalition within every community that has a population of at least 20,000.

Many of the nearly 30 coalitions already organized are involved with implementing tech-prep programs and will be instrumental in developing a Texas school-to-work system. The coalitions also discuss general education and training concerns, such as school finance, accountability measures, early childcare intervention, opportunities for lifelong learning, safe schools and workplace education.

Making It Work in Fort Worth

The Fort Worth Independent School District, just west of Dallas, brought together business, civic and education leaders in 1989 to examine the entire education delivery system and to develop strategies for transforming the school district into high performance schools. The Fort Worth: Project C3 (Community, Corporations, Classrooms) has achieved national acclaim for its partnership. The school district is coordinating this project with the American Business Conference, an organization of 100 chief executives of the fastest-growing mid-size companies in America. Locally, 3,500 workers, representing 300 firms, have joined the district in an effort to restructure the education system to prepare students for the 21st century. The structural changes that have taken place thus far have placed teachers and students, at all grade levels, into local businesses to connect instructional activities with real-world applications.

The Fort Worth Chamber of Commerce and other business groups have been as active in the partnership as the school district from the beginning. Teachers have gone into the workplace to learn from businesspeople, rather than assuming that educators must be the ones to teach. Local businesses have joined because their representatives have been actively involved in all phases of the program design and implementation. This sense of "ownership" by the business partners developed slowly, through open dialogue, shared leadership and results-oriented activities.

Pitfalls to Avoid

Some of the main pitfalls to avoid in recruiting employers and creating sustained partnerships with them are:

- **Waiting** until your coalition is formed and your changes are planned to invite businesspeople into the process. When you call employers in as an "advisory group" to approve a plan that has already been created, you do not invite true participation. In fact, the worst thing that can happen to a partnership is for the education or agency partners to present a pre-developed plan to the employer members.
- **Protection of turf,** defensiveness and finger-pointing that prevents true listening. Individuals and agencies working to protect the status quo rather than to facilitate change are a major obstacle you should watch for in meetings.
- **Limiting discussion** only to certain aspects of the education system you are willing to change and blocking discussion of other aspects, such as how many days students go to school, core courses and so on. By making certain elements of schooling "off limits" to discussion and change, you give businesspeople the message that they are expected to change but that the education system is not willing to do so.
- **A lack of direction** or substance to meetings and a lack of follow-through on recommendations. Such a situation will cause frustration and lack of trust and your partnership will fail.
- **Educators automatically assuming the leadership role** at meetings. Business partners could view this as a controlling strategy, which could alienate your potential business partners.

Broadening the Work of Education

The education enterprise in the United States has developed into an independent business within the community. The schools have their own representative boards that are elected to set policy and levy taxes, as well as various advisory committees and numerous volunteer groups. Yet the education system traditionally has not had strong links with community businesses and industry. This lack of connection has hindered schools in staying current with technology and educating all children for a technological society.

Educators are beginning to realize that to simulate real-world applications of academic content or to provide the laboratories for developing technical competence, they must form partnerships with business and industry. Business and industry have also realized that they have an important role in helping the education system meet the instructional needs of all students.

The American tradition of maintaining an independent, separate school system closed to other community enterprises must be broken. Today, the resources of the entire community are required to provide a quality education for our youth.

Dr. Lee W. Sloan is Dean of Occupational Education and Technology at Del Mar College in Corpus Christi, Texas. Prior to being named Dean in 1994, he was Director of the Coastal Bend Tech-Prep Consortium, working with school districts, postsecondary schools and local business and industry in the Corpus Christi area. He is also a regional representative for the Texas Business-Education Coalition, with responsibility for developing local coalitions for all of South Texas.

Resources for Creating Employer Partnerships

The Business Roundtable
1615 L Street, NW
Washington, DC 20036
202/872-1260

Texas Business and Education Coalition
400 West 15th St., Suite 910
Austin, TX 78741
512/480-8232; 512/320-0280

SECTION II

Developing Your Local Plan

Chapter 4: Choosing a Model for Your School-to-Careers System
Chapter 5: Case Study: Career Academy Model
Chapter 6: Case Study: Occupational Clusters Model
Chapter 7: Case Study: Tech Prep Model
Chapter 8: Case Study: Youth Apprenticeship Model
Chapter 9: Linking Secondary and Postsecondary Institutions
Chapter 10: Using Skill Standards and Skill Certificates
Chapter 11: Writing Your Local Plan

CHAPTER 4

Choosing a Model for Your School-to Careers System

By Patty Williamson

How you will structure your system is one of the first questions to answer in developing a plan for your local school-to-work system. Particularly as you try to reform your curriculum to effectively integrate school-based and work-based learning, you may feel the need for a model to follow.

This chapter describes four of the most common school-to-work models—Career Academy, Occupational/Academic Clusters, Tech Prep and Youth Apprenticeship. The four chapters following this one are written by educators (and one business representative) who have helped create successful school-to-work systems based on each of these four models. These "case studies" should give you a good picture of how each model works in practice, and the steps and challenges involved in creating a system like those profiled.

The first two models have been in operation in a number of locations for at least 20 years, while the others are of more recent vintage. All these models are now experiencing widespread interest and replication, spurred by the growing awareness that the United States must produce a world-class workforce and that the programs to achieve this must be a cooperative effort between educators and the business sector.

Each model has advantages, and no single approach is right for every situation. Many factors —your student population, the economic picture in your area, the kinds of programs you already have in place, the business located in your area and other considerations—will affect which model will best serve your students. Read the case histories and consider all of these models carefully before deciding what will work best in your community.

Career Academies

The career academy model, like other school-to-work systems, grew out of the frustration of educators and employers who recognized that many high school graduates (not to mention those who dropped out along the way) were functionally illiterate, lacked problem-solving ability and were ill prepared for either employment or higher education. School and work were separate worlds, and there were few paths to guide students from one to the other.

In the academy model, the core curriculum of a designated school or group of students within a school is organized around a career area. (Magnet schools are, in many cases, an academy extended to an entire building.) Common career areas include agribusiness, business/computers, communications and video technology, electronics, finance, health and human services, international trade and business, law and government, mechanical sciences, media and graphic arts, natural resources and environmental technology, transportation, and travel and tourism. Academies generally focus on career fields in which good employment opportunities exist and demand in the local labor market is growing.

Employers help design the academy's curriculum, offer internships and summer jobs (monitored by the school) and provide a mentor for each student. In most cases, academic courses are rigorous, so that academy graduates who want to continue their education beyond high school are prepared to do so. The relevance of what students are learning makes classwork more meaningful and easier to understand. Perhaps most important to this model's success is the intimate structure that allows a small group of students to interact with one another and the same staff members throughout their years in the academy.

History of the Model

The first career academy, a "school within a school," was established at Thomas Edison High School in Philadelphia in 1969, at the urging of the Philadelphia Urban League. Edison had experienced the highest dropout rate and lowest attendance rate in the system, and the success of its new Electrical Academy prompted the district to expand the model. By 1991, eight different academy programs were operating in 16 high schools in the city.

In 1981, the Philadelphia model was transplanted to two of the schools in the Sequoia Union High School District on the peninsula south of San Francisco, near the renowned Silicon Valley. These academies were so successful that in 1989 the U.S. Department of Education funded business technology academies at the district's other two high schools to serve as national demonstration sites for dropout prevention through vocational education. Since 1984, the California legislature has provided planning and implementation grants for the expansion of the academy model throughout the state.

In the 1980s, the American Express Company initiated academies of finance in 22 cities. American Express has also sponsored academies of travel and tourism in 14 cities and, in the late 1980s, was instrumental in establishing the National Academy Foundation (NAF), with Vernon Jordan Jr., former president of the National Urban League, as chairman of the board of directors.

By the early 1990s, at least 150 academies were in operation in the United States, dozens of them sponsored by the State of California and the NAF. Academies have been established in every high school in the District of Columbia.

Chapter 5 describes King-Drew Medical Magnet School, a career academy in the Watts section of Los Angeles focused on health care that has links to local medical facilities. Shirley Starke, the former principal of King-Drew, details how this highly successful academy created and maintains its innovative curriculum.

Features of Academies

Most academies are designed for Grades 11 and 12, although some include Grade 10 and occasionally Grade 9. They usually accept 40 to 50 new students each year, with class sizes of 20 to 25. A team of teachers from various disciplines emphasizes the practical relationship between academic and technical skills.

Since the original thrust of both the Philadelphia and the California academies was dropout prevention, they recruited primarily at-risk students. Target groups have broadened, however, to include students not considered at risk and students of all ability levels. Academies sponsored by the National Academy Foundation require sex equity and a racial mix reflecting the school population, and they enroll a cross section of college-bound and work-bound students.

Academy students are scheduled for a common block of time, usually in the morning. In this block, they generally take one technical course and three related academic courses (generally math, science and English) each semester. Other academic and elective classes are taken with non-academy students, except of course when an entire school is an academy.

Block scheduling has the advantage of allowing extra time for team teaching, field trips and guest speakers.

Sample Progression of Courses and Activities in a Three-Year Academy.

Grade 10	Grade 11	Summer	Grade 12
English, Math, Science, and Social Studies	English, Math, Science, and Social Studies	Summer School, If Needed	Technical Classes; or Perhaps English and/or Economics
Technical Classes	Technical Classes	Jobs in Local Companies for Students Who Are Performing Well	Mainstreamed in Other Classes
Elective Classes	Elective Classes		
Speakers and Field Trips	Speakers and Field Trips	Close Supervision	Preparation for Work or College Entrance
Motivational Activities	Motivational Activities	End-of-Summer Rating	
Parental Support	Mentor Program		Possible Part-Time Work in Afternoon

Adapted from California Partnership Academy, as cited in *Career Academies: Partnerships for Schools*

A typical sequence of courses and activities for a three-year academy is shown above.

Academy teachers usually share a planning period each day to coordinate their efforts, integrating the curriculum so that courses are inter-related and a topic can be approached from several different angles. For example, the Health Academy at Blair High School in Pasadena developed this study unit around the book, *The Andromeda Strain:*

English: the literary features of the book—plot, character and theme

Health: effects and treatment of viruses

Science: how cells and immune systems operate

Math: the geometric progression of unchecked viruses

Advantages and Disadvantages

The career academy model has the advantage of offering a wide range of students the opportunity to become part of a small, closely knit group that helps to build confidence and self-esteem. In his 1992 book, *Research on School-to-Work Transition Programs,* David Stern asserts that the features of career academies, if applied to the American high school as a whole, could help high schools solve some of their long-standing problems by placing academic instruction in a practical context and linking students together into a learning community.

Students in career academies usually have personal mentors from business and industry to introduce them to the workplace and offer advice and encouragement. Supervision and feedback from both mentors and school staff increase the likelihood of a successful experience on the job.

There are disadvantages too. As Stern notes, although the academy curriculum sometimes builds on work experience, structured work-based learning is rarely provided. A formal link to post-secondary education may be part of an academy's design, but it is not a given.

Because the academy model is complex and differs significantly from standard procedure in most high schools, problems naturally arise, particularly around relations between the academy staff and other school staff and integrating the academic and vocational curricula. Non-academy personnel may believe that the academy program receives more than its share of money. (In fact, while the per-pupil cost for academy students is usually higher because of smaller class sizes and extra activities, it is nearly always offset by donations from business and industry.)

Teachers not directly involved with the academy program may also be upset if they perceive that it is not including as many "problem students" as they would like. And academy teachers may not want to be burdened with the responsibility of establishing and maintaining business relationships. This is even more difficult in communities where few good opportunities for student employment exist.

Occupational Cluster Programs

Home Grown Lessons: Innovative Programs Linking Work and High School, written by Edward Pauley, Hilary Kopp and Joshua Haimson, describes occupational-academic cluster programs as "typically, large-scale efforts to offer all the students in a high school a choice among several career pathways, each based on a sequence of related courses tied to a cluster of occupations (such as environment-related industries, service industries or manufacturing and engineering occupations)."

The system the authors describe includes introductory career exploration courses, after which students choose one of several career clusters—broad career areas such as communications, transportation or health and human services. Students then take occupation- related courses that teach broad, work-related skills relevant to their chosen cluster. Academic and occupational instruction are integrated, applied learning techniques are often used and work-based experiences enable students to explore potential careers. The cluster model resembles the career academy model, but the cluster model is usually structured so that all students within a school—not just those who enter a separate academy—choose a career pathway to which their courses are related.

Structure of Cluster Programs

Cluster programs are usually designed in two ways, as explained by Donald Maley in his 1975 book, *Cluster Concept in Vocational Education.* In the pyramidal structure, tenth graders take courses in four broad occupational areas, eleventh graders focus on a more advanced level of two of these areas and twelfth graders specialize their coursework in a single occupation. This design affords students a sequential exploratory experience in a specific occupation, a general background of understanding and involvement with several related work areas and the opportunity to gradually specialize in one area or occupation.

For example, tenth graders enrolled in the construction cluster might spend a two-hour daily block exploring the occupations of plumber, electrician, carpenter and mason for eight weeks each. Based on their interests and abilities, they would devote the two-hour block the following year to just two of the areas and choose one area for specialization in twelfth grade. This model is not intended to be an in-depth preparation for any single occupation, but may provide entry-level skills for several job areas.

The second way cluster programs can be set up is with a vertical-hierarchical structure. This structure is also a three-year program, based on the idea that within a single occupational category there are a number of different levels of job classifications. With this structure, clusters are built on a single occupational category, such as mechanic, carpenter or draftsman. This permits students to give greater concentration to a single occupational category. One of its greatest advantages is that it allows individuals to find their niche at different levels of ability or preparation within an occupational category.

Program Models

One successful cluster program, at Dauphin County Technical School in Harrisburg, Pennsylvania, is profiled in Chapter 6. John Polto describes the process of changing the school's curriculum from a traditional model in which academic and vocational content were taught separately to a more integrated and motivating cluster model.

The Roosevelt Renaissance 2000 program in Portland, Oregon, described in Chapters 18 and 19, is typical of a cluster program that offers several career pathways. The Roosevelt program includes six occupational pathways (clusters of courses, teachers and students in Grades 10 through 12), each of which provides occupation-specific and academic courses that integrate occupation-related and career exploratory themes.

Graduates of RR2000 receive a Certificate of Mastery (CAM). This program is a prototype for what legislation passed in Oregon mandates to be common practice across the state by 1996.

Oregon is among those states that have officially endorsed the cluster model. Many vocational educators view this approach as one of the best ways to integrate academic and vocational instruction, and education reformers affiliated with the National Center for Education and the Economy believe this model can be used effectively to provide school-to-work learning experiences for a large proportion of the country's high school students.

The Health Occupations Program in Kalamazoo County, Michigan (in which 11 high schools participate), is typical of the vertical-hierarchical cluster design. It enrolls a range of students, from exceptional to at-risk, and provides pre-professional training and career orientation for students whose career goals range from nurse's aide to physician. The three-year program includes regular academic classes at the high school level, specially designed health occupation classes at the participating hospitals, courses at Kalamazoo Community College and work-based learning experiences. Career paths include full-time health care employment for some high school graduates and 2+2 and 2+4 youth apprenticeships.

Advantages and Disadvantages

The pyramidal occupational-academic cluster model can be used with all students in a school, allowing them to gain basic knowledge about a number of related job fields and specializing as they draw closer to high school graduation. While it can serve as a bridge to entry-level employment, apprenticeship or postsecondary education, it does not provide the more specific and in-depth training of some other models, nor does it always include extensive work-based learning.

The vertical cluster model, while serving fewer students, concentrates from the beginning on a specific occupational area and allows students with varying ability and goals to exit at various points along the career ladder.

Tech Prep

The concept of tech prep—a two-year high-school program coordinated with two years of study leading to an associate degree from a community or technical college—was introduced in 1985 by Dale Parnell, long-time president of the American Association of Community and Junior Colleges (AACJC). Parnell described the concept in depth in his book, *The Neglected Majority.* Although various kinds of articulated programs and other "2+2" (two years of high school linked to two years of college) formats had been in operation for a number of years, Parnell's Tech Prep/Associate Degree (TPAD) plan was the first to incorporate a new approach to both curricula and educational structures. Parnell's plan was also designed to meet the needs of students in the two middle quartiles of the typical high school population.

History of Tech Prep

TPAD was the outgrowth of Parnell's meetings with Dr. Gene Bottoms, director of the Southern Regional Education Board, and Dan Hull and Dr. Leon Pedrotti of the Center for Occupational Research and Development (CORD) to plan a national strategy to foster 2+2 articulation programs in technical education. In 1989 and 1990 CORD, AACJC, the National Association of State Directors of Vocational Technical Education Consortium, the National Center for Research in Vocational Education, the Northwest Regional Educational Laboratory and others co-sponsored tech prep workshops in six cities. More than 1,600 people participated.

The original intent of tech prep was to enroll Parnell's "forgotten majority"—students in the two middle quartiles academically—and that is still true in many programs. Others, like the one initiated by Stephen Olczak in St. Mary's County, Maryland, and profiled in Chapter 7, stress that tech prep is for every student, since all will ultimately enter the world of work—and the program does provide multiple exits along a career ladder.

Features of Tech Prep

The principal, defining characteristic of tech prep is curriculum articulation. Because the goal is for tech prep graduates to complete a two-year degree or postsecondary certificate program, the classwork is much more stringent than in the old "general education" track, which allowed non-college bound students to drift through high school, preparing for neither college nor work. Although the academic material is more demanding, the fact that it involves contextual learning and that it is related in practical ways to the world of work makes it both more interesting to students and easier for them to master.

Tech prep encourages career awareness and exploration activities throughout the elementary and middle school/junior high years, culminating in the preparation of a career/education plan by each eighth grader. Articulation of many courses with two-year postsecondary institutions means that students are better prepared when they enter college and that there is no repetition of subject matter studied in high school. Many students are able to earn advanced college credit in high school, at little or no cost.

Academic and vocational/technical teachers are encouraged to work together to develop curriculum units and activities. Business partners in a tech prep system are involved in curriculum planning and provide opportunities for students and teachers to gain first-hand understanding of the world of work and how the material taught in school will be put to use on the job.

TPAD's appeal, emphasizing applied academics and secondary/postsecondary articulation, was so immediate and so widespread that it became the cornerstone of the Perkins Vocational and Applied Technology Education Act Amendments of 1990. Only about 150 programs resembling the present tech prep initiatives existed prior to 1990. Now every state sponsors at least one tech prep consortium involving secondary and postsecondary schools, employers and other groups such as Chambers of Commerce and trade associations.

According to Hull and Parnell, employers' involvement with tech prep programs includes providing student and teacher awards and scholarships, releasing personnel to teach in schools, serving on advisory committees, arranging for student plant tours, providing speakers for industry education days and participating in mentoring programs.

The development of the applied academics that are the backbone of a tech prep program predated the Perkins Act Amendments by several years. The Center for Occupational Research and Development has been the leader in developing applied academic courses used by many schools. Principles of Technology (applied physics), introduced in 1986, is now used by tens of thousands of high school students in the U.S. and Canada. Applied courses in math, communication and biology/chemistry followed in the next few years, providing a coherent sequence of core courses linked to a sequence of recommended or required vocational courses.

A typical four-year sequence of applied academics courses for high school students in shown in the table on the facing page. (This is the sequence Hull and Parnell recommend, but not all tech prep programs will follow this exactly).

Model Programs and Results

In 1986 the Richmond County School District in Hamlet, North Carolina, was one of the first in the country to adopt the TPAD program. During the next four years, the percentage of high school students in the district completing Algebra I increased from 47 percent to 75 percent, the average SAT scores of graduating seniors increased 47 points and the annual dropout rate for Grades 9 through 12 decreased from 7.2 percent to 4.8 percent. Today the district's commitment to tech prep is even stronger than it was a decade ago.

Applied Academics in a Four-Year High School Program

	Grade 9	Grade 10	Grade 11	Grade 12
Math	Applied Math I	Applied Math II	Algebra II	Formal Geometry
Science	Applied Biology/Chemistry	Principles of Technology I	Principles of Technolgy II (Optional)	
English	English I, English II, English III and Applied Communications			
Social Studies	Geography, History and Government			
Other			Vocational Education Concentration	Vocational Education Concentration

Adapted from *Tech Prep/Associate Degree: A Win/Win Experience*, p. 80

St. Mary's County Public Schools in St. Mary's County, Maryland, have also implemented a successful tech prep program in their high schools and local community colleges. The creation of the St. Mary's program is described in detail in Chapter 7.

Other tech prep consortia noted for particularly successful programs (all of them award winners and/or model demonstration sites) include: Capital Area Tech-Prep Consortium in Austin, Texas; Consortium to Restructure Education through Academic and Technical Excellence (CREATE) in Oklahoma City; Los Angeles Area Tech Prep Consortium in West Covina, California; Mt. Hood Regional Cooperative Consortium in Gresham, Oregon; Partnership for Academic and Career Education (PACE) in Pendleton, South Carolina; Rhode Island Tech Prep Program in Warwick, Rhode Island; and Seattle Tech Prep Project in Seattle.

Advantages and Disadvantages

Tech prep programs are designed to prepare students for the hundreds of careers that require technical training beyond high school, but do not provide students a four-year degree. As predictors indicate that at least two-thirds of the new jobs by the year 2000 will require some training beyond high school but not a four-year degree, the value of tech prep is clear. The current emphasis on the term "school to work" has confused many tech prep practitioners, who fear it is a new direction meant to replace the program that has served them so well for nearly a decade. This is not the case, of course.

Tech prep provides a strong link to postsecondary education, assuming that all participants will, as a matter of course, include an associate degree in their career plans. However, as Stern and his colleagues note in *Research on School-to-Work Transition Programs*, tech prep seldom targets at-risk or non-college bound students and, in the past, it has rarely provided the opportunity for work-based learning or mentoring. Some tech prep programs are addressing the latter drawback by expanding to include youth apprenticeships, and most practitioners feel that, with its strong background in career awareness/exploration, tech prep provides a natural transition into more extensive work-based learning.

Youth Apprenticeship

The essential idea of apprenticeship programs is to provide structured, work-based learning-by-doing for high school students under the tutelage of experts. Youth apprenticeship is hardly a new idea. Ben Franklin, after all, learned the printing trade in his brother's shop and went on to a successful career. For most of the 200 years after Franklin's era, however, American secondary students were not enrolled in apprenticeship programs, and young people who entered registered apprenticeships received no credit for worksite learning programs in which they might have participated during high school.

History of the Model

Beginning in 1977, a number of apprenticeship/school linkage demonstration projects were piloted by the U.S. Department of Labor/Bureau of Apprenticeship and Training. These programs allowed high school seniors to become registered apprentices, continuing as full-time apprentices with their employers after graduation. The Perkins Vocational Education Act of 1984 mandated an interagency agreement between the federal departments of education and labor to promote apprenticeship programs.

Most of the youth apprenticeship programs currently in operation date only from the early 1990s and are still evolving. Many of these programs are modeled after similar programs in Europe. In general, they give participants a chance to be admitted to registered apprenticeship programs, to be paid for their work and to receive specialized occupational training according to industry standards. Since the admission of school-age youth to such programs is relatively new, there is considerable variation in how programs are defined and implemented.

Features of Model Programs

The Pickens County Youth Apprenticeship Initiative in Easley, South Carolina—which, like a number of others in the country, is an extension of a very successful tech prep program—notes these differences between youth apprenticeship and other types of work-based learning:

- Youth apprenticeship is of longer duration
- It requires more curriculum development and/or modification
- It involves greater collaboration among diverse partners—including high schools, colleges and employers
- It stresses more formal linkages between classroom learning in different disciplines and between the classroom and the workplace
- It results in more broad-based exposure to the workplace and more sophisticated technical skills

A number of outstanding programs, like the one in Pickens County, have a direct, ongoing relationship with Cambridge-based Jobs for the Future (see resource list at the end of this chapter), the leading organization in the development of youth apprenticeships in the United States. These programs include: Careers in Education in Cambridge, Massachusetts; Cornell Youth Apprenticeship Demonstration Project in Broome County, New York; Craftsmanship 2000 in Tulsa, Oklahoma; and Pennsylvania Youth Apprenticeship Program, with sites in Pittsburgh, Philadelphia, Williamsport and the York-Lancaster area.

The Craftsmanship 2000 program in Oklahoma, a highly successful apprenticeship program that is often looked to as a model, is described in detail in Chapter 8.

Several of these programs, as well as others in California, Florida, Georgia, Illinois, Maryland, Massachusetts, Michigan and Ohio, have received demonstration grants from the U.S. Department of Labor, and a number of other states have also initiated efforts to expand youth apprenticeship programs.

Most of the early exemplary apprenticeship programs focused on one of the following fields: auto mechanics, building trades, business management, electronics, elementary education, fashion and retail merchandising, finance, graphic arts, health and human services, hospitality, industrial electricity, information systems and processing, manufacturing and engineering technology, metal-working, natural sciences and resource management, office technology, printing, professional, public and commercial services, trade and tourism and welding.

How Curriculum is Coordinated

Generally, apprenticeship programs take four years and lead to an associate's degree. They do not, however, exclude students who may want to complete additional education. In most cases, an increasing amount of time is spent on the job each year. Often the week is divided, with two or three days in school and the rest on the job. Students are paid for their worksite time and sometimes for their hours in school, as well. Participants often have the opportunity to rotate through several departments at a worksite in their field and then choose the one that most interests them for continued involvement.

In the Craftsmanship 2000 program, at the request of employers, participants' school day was extended by two hours until 5 p.m., increasing their instructional time by approximately three hours a day. Students in this program take technical classes at Tulsa Technology Center and academic classes at their home schools. In some Wisconsin programs, participants spend two eight-hour days each week taking all their academic and technical classes (taught by high school teachers) at a technical college and report to their worksites the other three days. Since youth apprenticeship is relatively new, articulation agreements with community and technical colleges are still being developed by many programs.

The Broome County program has found that, because of the relatively small number of students participating from any single high school, it is more effective to focus on structuring work as a learning experience than on changing participants' schools dramatically. In programs that have developed a specialized curriculum, that curriculum is often project- or competency-based. Applied academic courses are often offered, especially in the programs that are extensions of tech prep. All programs stress the importance of having professional mentors work with apprentices, usually on a one-to-one basis, and some also assign academic teachers to oversee each student's progress.

To date, youth apprenticeship programs have generally been limited to groups of 12 to 50 students. While it was estimated that only a few thousand students were enrolled in such programs throughout the U.S. in mid-1994, support through the School-to-Work Opportunities Act should increase participation significantly. Recruitment is sometimes targeted to at-risk students.

Advantages and Disadvantages

Like vocational education in general, youth apprenticeship suffers from the public's misperception that it is not related to academic education and cannot lead students to either postsecondary education or a well-paid career. The inflexibility of school schedules (and, in some cases, graduation requirements) and the resistance of labor unions that fear young apprentices may replace older workers may also be stumbling blocks to the establishment of youth apprenticeship programs.

Despite these possible drawbacks, youth apprenticeship is the school-to-work model that most consistently provides structured work-based learning, paid work experience and occupational certification for students. It also has the advantage, which other models often do not, of financial support provided by employers.

Consider Carefully

Remember that no one school-to-work model is right for everyone. As you read the next four chapters describing programs based on each of these models, you may want to keep brief notes on the things you believe would be most effective in your situation. You may find you're leaning toward one model, a multi-model approach or a blend of several models. Whatever best matches the needs of your students and employers and can most effectively use the resources available in your community is right for you.

Dr. Patty Williamson spent 27 years in school public relations and administration, retiring in 1993 to form her own writing and public relations business. She has received many awards for outstanding publications and marketing activities for vocational-technical education programs.

Resources for Information on School-to-Work Models

Career Academies: Partnerships for Reconstructing American High Schools. David Stern, Marilyn Raby and Charles Dayton. San Francisco: Jossey-Bass, 1992.*

Cluster Concept in Vocational Education. Donald Maley. Chicago: American Technical Society, 1975.

Education Through Occupations in American High Schools. Edited by W. Norton Grubb. New York: Teachers College Press, 1995.*

Getting Started with Youth Apprenticeship: A "How to" Workbook. Annette Craig, Frances Stokes and Diana Walter. Pendleton, SC: Partnership for Academic and Career Education, 1993.

Home Grown Lessons: Innovative Programs Linking Work and High School. Edward Pauley, Hilary Kopp and Joshua Haimson. San Francisco: Jossey-Bass, 1995.*

Research on School-to-Work Transition Programs in the United States. David Stern, Neal Finkelstein, James R. Stone, John Latting and Carolyn Dornsife. Berkeley, CA: National Center for Research in Vocational Education, 1994.

School to Work: An Introduction With Lessons From Experience. Cambridge, MA: Jobs for the Future, 1994.

Tech Prep/Associate Degree: A Win/Win Experience. Dan Hull and Dale Parnell. Waco, TX: Center for Occupational Research and Development, 1991.*

Tech Prep Marketing Guide. Patty Williamson. Alexandria, VA: American Vocational Association, 1993.*

"Tech Prep: Where Are We Now?" D. Bragg. *Vocational Education Journal,* April 1995.

*May be ordered from the American Vocational Association.

CHAPTER 5

Case Study:
Career Academy Model

By Shirley Earlise Starke
King-Drew Medical Magnet High School
Los Angeles, California

King-Drew Medical Magnet High School, located in the Watts section of Los Angeles, is a success story. Factors such as the school's 90 percent attendance rate, high college entry rates (with many graduates pursuing health careers in community colleges and four-year universities), and its academic performance in 1993 and 1994 on the CLAS State test affirm the results of the program at the school. We are proud of our award-winning staff and the accomplishments of our students. But it did not happen overnight.

King-Drew is the result of a collaborative effort between the Los Angeles Unified School District, the Charles R. Drew University of Medicine and Science, and the Los Angeles County Martin Luther King Jr.-Drew Medical Center. Our goal has always been to provide an enriched secondary educational experience for students interested in the fields of health and medicine. Our philosophical foundation includes the concepts of community-based learning experiences, community service and excellence in academic achievement.

In this chapter, I will concentrate on the curriculum developed when an alliance of medical university staff members and local community leaders persuaded a school district to create a highly structured, specialized health and magnet high school. From this joint venture, students within the Los Angeles Unified School District (LAUSD) are now able to attend an innovative educational program of proven success.

Making It Happen

Initial Planning

The initial planning for the King-Drew Medical Magnet High School occurred between 1971 and 1981. Representatives of Charles R. Drew University, the Office of the Superintendent of the Los Angeles Unified School District , the Martin Luther King, Jr.-Drew Medical Center, the American Jewish Committee, the Urban League and the National Conference of Christians and Jews participated in these planning sessions.

As a result of the meetings and discussions held over 10-year period, the efforts of community leaders and the submission of a landmark study on

***King-Drew Medical Magnet High School is located in south central Los Angeles,** a community plagued by economic and social challenges.*

The school currently includes Grades 10 through 12, with a maximum capacity of 220 students. Ethnically, the student body can generally be classified as 60 to 65 percent African-American, 22 to 30 percent Hispanic and 10 to 13 percent others, including Caucasian, American Indian and Asian. King-Drew shares the campus of the Charles Drew University of Medicine and Science. The Martin Luther King, Jr. Medical Center is across the street.

As a result of the program's success, the Los Angeles Board of Education has approved the construction of a new, expanded facility, scheduled to open in 1998, which will eventually accommodate 1,700 ninth to twelfth graders.

inner-city public schools by the American Jewish Committee, the medical magnet high school opened at the campus of Jordan High School in Watts in 1982. It was funded by the Office of the Director of Integration Programs and the Director of Magnet Schools of LAUSD.

King-Drew Partners

The first partner, the Los Angeles Unified School District, is the second-largest school district in the United States with an enrollment of 795,500 students. Its 901 schools and centers serve an area of 708 square miles.

The second partner, Charles R. Drew University of Medicine and Science, founded in 1966, was named for the distinguished African-American surgeon whose research on preserving blood plasma resulted in the creation of the first American Red Cross Blood Bank. The University specializes in training physicians to work in urban settings and serves the south central Los Angeles community, one of the most socially and economically impacted areas of the city. It has 13 departments, offering physicians training in specialties from anesthesiology to psychiatry. Drew University has been a part of the Martin Luther King Jr.-Drew Medical Center since the hospital opened its doors in 1972.

The third partner, the Martin Luther King Jr.-Drew Medical Center, was established after the Watts Riot of 1965 as a result of the efforts of many community activists and advocates of the McCone Commission Report. This report pinpointed the lack of accessible medical care within this community as a factor contributing to the intensity of the riot. The immediate construction of a modern, well-equipped hospital was recommended and the multi-million-dollar, 480-bed teaching hospital was built across the street from Drew University. Included in the main hospital today are an intern and resident physicians' dormitory and a 76-bed mental health unit.

Currently, additional partners involved with the King-Drew Medical Magnet High School include the Ella Fitzgerald Child Care Center, the Kaiser Permanente Watts Counseling and Learning Center, the Harriet Shields Child Care Center, the Johnnie Tillmon Child Care Center, the Watts Health Foundation, UCLA Medical Center, the Golden Age Adult Day Care Center, Charles R. Drew's Adolescent Information and Education Program and California State University at Los Angeles and at Dominguez Hills.

When multiple partners exist, they come to the discussion table with different ideas, objectives, notions, interests and beliefs. Each agency brings an added dimension to the joint venture's purpose of providing an enriched secondary educational experience for students interested in health care and medicine. To keep a clear focus on what they want the program to achieve, the stakeholders of the King-Drew Medical Magnet High School developed this series of goals:

- To motivate students to strive for maximum achievement in all academic endeavors.
- To foster a school atmosphere characterized by the excitement of learning and attitudes of inquiry and discovery as exemplified in the achievements of Dr. Charles R. Drew.
- To encourage faculty to maintain a teaching and learning environment that emphasizes the importance of hard work and the value of positive achievement.
- To cultivate and nurture in students the development of attitudes that reflect compassion and respect for all people, as was so clearly demonstrated in the life and work of Dr. Martin Luther King Jr.
- To inspire students to pursue careers in the health care and medical field within communities populated by the under-served and the disadvantaged.
- To give each student opportunities for experience-based learning in medical science and other health-related fields, with emphasis upon the technological advancements in these disciplines.
- To meet all requirements for graduation from high school and admission to major colleges and universities.
- To use a variety of instructional resources, including on-site observation.

- To use the resources of Drew University, the hospital and the surrounding community to enrich the high school education program. Specifically, they will introduce and provide the student an overview of health care services at various worksites, introduce students to terms and definitions specific to each assigned worksite, and define the general nature, components and utility of the worksite in relation to patient care. These resources also will provide students an opportunity to experience and conduct common tests performed at a worksite in order to foster a deeper understanding of the basic sciences, help students develop greater familiarity with anatomy, physiology, biology, physics and chemistry as a result of their practical experiences at the various work or research sites and help students understand the various health problems associated with each assignment.

The First Two Years

Getting Started and Recruiting

During King-Drew's first year, the principal of Jordan High School was responsible for hiring staff, obtaining necessary equipment, recruiting students and making the program operational. The original curriculum consisted of English, health, algebra, geometry, biology, physical education and an introduction to the health professions. These last two classes were taught by Jordan High School teachers.

Only tenth-grade students were recruited for the new magnet through the LAUSD Choices brochure, which described all of the district's magnet schools. Most applicants lived outside the Watts area, some as far away as 30 miles to the northwest. Finding the recruitment of students from the immediate area more difficult than anticipated, community members initiated a recruitment campaign that emphasized to local students the advantages of the new medical magnet high school.

Under the leadership of Alice Harris, a well-known community activist, the community was successful in recruiting applicants from the local community to enroll in the first tenth-grade class of 60 students. This group continued its recruitment efforts on behalf of the school and the community for the next several years.

Integrating Hospital Experiences

The second year, 1983, the curriculum was expanded and a class schedule was developed to coordinate hospital activities with required classroom instruction. The task of incorporating the hospital's resources into a curriculum design was funded by a grant to Drew University from the Robert Wood Johnson Foundation. The grant was used to hire a curriculum consultant and an administrative secretary.

The curriculum consultant had an extensive background in experiential-based education as well as a thorough understanding of how to use community resources to enhance an educational program. The administrative secretary was familiar with the organizational structure and the staff of both the hospital and the university. Together they worked to use the staff and resources of the Medical Center in three ways: first, as a source for lecturers to supplement the classroom discussion of the teachers; second, for large group demonstrations; and third, for intense work-based learning experiences for individual students over an extended period of time.

The first and second objectives were easily accomplished. The Magenet Coordinator, curriculum consultant and secretary's major efforts were devoted to the development of the work-based experiences for the students.

Fortunately, the hospital's chief administrator at the time strongly supported the idea of using the hospital as a place for students to learn. He believed it would be good not only for the students, but also for the hospital and the community. He wrote a letter to all hospital staff asking them to support the program, and then invited the Magnet Coordinator, curriculum consultant and secretary to look for supervisors who would be interested in participating. Thus, it was up to each hospital supervisor or department head to decide if a unit, office or laboratory had personnel to provide students with structured learning opportunities, supervision and mentoring.

As a result of their inquiries, the Magnet Coordinator, curriculum consultant and secretary were able to secure more than 55 placements at the hospital for job shadowing experiences. They then developed detailed sets of objectives defining what the student needed to accomplish during the time spent at each worksite. The objectives varied depending on the site, but were always pertinent to the school's curriculum and designed to emphasize some of the broader issues of understanding health careers and the delivery of health services. They were also designed to help students understand the sociological, financial and political aspects of their work experience.

For example, the job shadowing plan (outlined on the facing page) for the gastroenterology site addresses the diagnosis and treatment of intestinal disorders. It also requires students to locate and summarize two published articles related to gastroenterology and to interview two people at the site about their educational training.

Our Own Facility

To ensure that students maintained close contact with the Medical Center, Drew University donated a plot of land to the school district for the King-Drew Magnet's campus. This enabled the school to move from the campus of Jordan High School to a facility of its own next to Drew University and across the street from the medical center.

In addition to the curriculum expansion and the move during this second year, administrative responsibilities were shifted from the principal of Jordan High School to the Director of Instruction of the district's Senior High School Division. The staff expanded to six teachers and a full-time magnet coordinator, who was recognized throughout the district for his ability to inspire students to produce award-winning science projects. The program became self-sufficient, capable of offering a complete curriculum to tenth- and eleventh-grade students without dependence on Jordan High School's instructional program. In addition to science and math, the subjects taught at King-Drew now included English, Spanish, U.S. history, American literature, U.S. government and physical education.

The third year, 1984, began with a newly appointed onsite principal, the magnet coordinator, eight teachers and all three grade levels—tenth, eleventh and twelfth. There were six buildings on the campus, housing eight classrooms, a science laboratory, administrative offices and the "shack," which was used during nutrition classes and lunch to serve food prepared at Jordan High School.

We continued to expand our work-based learning experiences at the hospital. Because we were providing community service through having students help at the hospital, the hospital staff was very willing to be involved. Despite their busy schedules, staff were eager to work with students, who they saw could use this experience to one day give back to the community. Staff provided students with structured learning opportunities in their offices and laboratories and acted as mentors to students.

Continued Growth

The next four years were ones of growth, adjustment and refinement for King-Drew. The work experiences at the hospital increased to more than 90 sites, and additional community work experiences were located. The Magnet Office provided a bus to shuttle students between school and worksites throughout the community.

The program's popularity, curriculum demands and variety of student needs required us to hire a full-time counselor, two additional teachers and two educational aides. We also acquired one more building and a new physical education area, and began offering advanced placement classes in English, Spanish, calculus and physics to twelfth graders.

Support Activities

Very early it became apparent that tutoring and personal encouragement would greatly enhance the achievement level of many of the students. Peer tutors were hired on the recommendation of teachers, and student volunteers were

KING-DREW MEDICAL MAGNET HIGH SCHOOL

Job Shadowing Plan: Gastroenterology

Overview:

The Gastroenterology Department deals with diseases of the intestinal tract. Working with the personnel in this unit, the King/Drew scholars will learn how intestinal disorders are diagnosed and treated. The scholars will have the opportunity to familiarize themselves with the tools used in the unit and to observe the treatment of patients.

Your experiences in the Division of Gastroenterology should help you answer the following questions and perform these tasks:

- What is the function of the Division of Gastroenterology?
- Describe what a gastroenterologist does. What education and training is needed for this job?
- Identify at least two major parts of the stomach and explain the functions. Draw a diagram of the digestive system, labeling the major parts and describing the function of each part.
- Explain the use of a fiberscope. Draw a diagram and label its parts.
- Why are biopsies performed? How are the results used?
- Interpret and read at least three endoscopic films and describe body parts involved. Explain projected diagnosis for each film.
- Explain gastric analysis and the purpose of performing this procedure.
- Define the following procedures and explain the major purpose of each:
  - a. Esophagogastroduodenoscopy
  - b. Colonoscopy
  - c. Procto sigmoidoscopy
- Attend a faculty conference, if possible, on Endoscopic Film and describe what it was about.

You will be expected to take notes and to write a brief summary of what you have learned each day on the evaluation sheet.

Added Activities for the Hospital Program

Each of the following activities must be completed by the end of your rotation.

- List and define 25 vocabulary terms unique to your site.
- Submit and summarize two articles from a newspaper, magazine or medical journal related to the site.
- Submit a Career Options Data sheet at the end of each rotation.
- Interview at least two people at your site and trace the "educational path" taken by each.

recruited from UCLA, USC, Drew and California State University at Dominguez Hills. Volunteer retired counseling administrators provided personal, career and college counseling.

To afford some students the opportunity to perform independent research for their science projects, the magnet coordinator solicited medical faculty involved in original research at Drew and other neighboring universities to train juniors and seniors in methods of scientific investigation. Since then, independent student research has become a significant feature of the program at King-Drew, with many students achieving recognition for their science projects.

Developing Traditions

We developed a student-parent contract for academic excellence that required specific commitments from parents and students. To promote increased parental and community support we created an Advisory Council, P.T.A. and Academic Boosters. Students wanted traditional activities such as homecoming, Christmas and Valentine dances, a prom, drill team and volleyball team. Teachers and parents helped to supervise the dances, locate facilities and advance money for required deposits. College students sponsored the drill teams and the volleyball teams until a teacher was found to serve as the sponsor.

Being one of the first schools of its kind in the District, there were no models, resources or individuals available to serve as guides or advisors when the school encountered problems. Our solutions were based on common sense, flexibility, creativity, patience, a sense of humor, hard work and positive thinking.

King-Drew Today

Enrollment

King-Drew has a school population of 220 students in Grades 10–12. Enrollment is usually 85 to 90 tenth graders, 70 to 80 eleventh graders, and 60 to 65 twelfth graders. For the first three years, approximately 30 to 40 percent of King-Drew's student body was made up of local students. The school now attracts a city-wide applicant pool. However, at least 25 percent of the students are from the Watts area and local community leaders are still very much involved in the program.

There are no academic prerequisites for entry to King-Drew. Any student may choose to attend the school based solely on these primary factors:

- Has an interest in science or health-related careers
- Desires to prepare for a medical or health career
- Wants to develop independent learning skills
- Is willing to cooperate with fellow students and adults to achieve an atmosphere of quality education
- Desires to combine field experiences with classroom instruction
- Possesses a sense of personal responsibility.

Under LAUSD's Magnet Program, students have the option of leaving the program at any beginning of the fall or spring semester of any grade. The Magnet Program provides transportation to and from campus for all students who live more than three miles away. Late buses are provided for students who participate in extra-curricular activities or after-school tutoring.

Scheduling

Building a master schedule with 10 teachers for a small student population—a schedule that must accommodate the academic requirements for graduation as well as a work-experience program —makes for little flexibility. Upon enrollment, each student is provided a course of study, organized into a three-year educational plan. All students are assigned to six classes each semester.

Academic classes are taken four days a week. Tenth graders spend three hours at the worksite one day a week. Eleventh and twelfth graders spend five hours at their sites one day a week. The first period of each day is spent at the school and is the only time when all students are on campus simultaneously.This schedule allows students to work at a minimum of 10 different sites by the time they graduate. Grades 10 and 11 each cover four sites over one academic year; Grade 12, two sites.

There are currently about 90 work experience sites at Martin Luther King Jr.-Drew Medical Center, some of which accept students five days a week. The majority of students are placed in various departments at the hospital and university. A coordinating teacher works with the hospital supervisors to develop learning activities.

Curriculum

The King-Drew curriculum is a college preparatory program emphasizing courses related to the study of medicine. The three-year education plan (shown on the opposite page) provides for the completion of 180 credits during the three years of enrollment. In addition, students may complete, with prior approval, a total of 30 credits in summer school. These credits may be taken for special skills development or enrichment. Credits earned in the ninth grade, and taken before enrolling at King-Drew, count toward graduation. If a student receives a "D" or "Fail" in any class, the subject must be repeated in summer school. The only classes that the schedule will permit to be repeated at King-Drew during the school year are math classes. A minimum of 220 credits are needed to graduate. Students must also pass proficiency tests in English, math and writing to receive a diploma from LAUSD.

English

The English Department prepares students for post-high school educational pursuits through a multi-cultural, literature-based reading and writing program. The courses offered include tenth grade English, American literature, contemporary composition, world literature, expository composition and advanced placement English. To link the classes with students' health care experiences, each student in Grades 10-12 is required to produce either a journal based on hospital site experiences, a term paper based on a medical/societal issue, or an extended senior research paper based on the two final hospital or research laboratory sites. The responsibility for these assignments is shared by the magnet coordinator, social studies, English, and science teachers. In addition, the English Department has developed a core literature list for each grade, a series of independent and collaborative short-term and long-term assignments, and a continuous inter-connected reading and writing program to develop each student's "voice."

Much of the work in English incorporates advanced placement materials in all grade levels along with pedagogical and assessment strategies introduced in state testing materials. By the time students graduate, they have become practiced in autobiographical, reflective, interpretive and persuasive essays. Furthermore, they have knowledge of literary and rhetorical strategies and a true sense of their strengths and weaknesses with the English language.

Mathematics

The primary goal of the Mathematics Department is to establish and maintain an environment that encourages under-represented and at-risk students to enroll and succeed in pre-college mathematics. Course offerings from algebra I to advanced placement calculus pose tasks based on sound and significant mathematics.

One day each week during homeroom period, all students are given a math problem developed by the Math Club. These problems are drawn from situations in the hospital or from the experiences of the students. In addition, the math teacher helps students with the charting and graphing required for their science projects.

Los Angeles Unified School District King-Drew Medical Magnet Three-Year Education Plan

Period	Grade 9		Grade 10		Grade 11		Grade 12	
	Fall	**Spring**	**Fall**	**Spring**	**Fall**	**Spring**	**Fall**	**Spring**
1	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.
2	English 9A	English 9B	English 10A	English 10B	American Literature	Contemporary Composition	World Literature or AP English	Expository Composition or AP English
3	World History A	World History B	Health Education & Career Planning I & II	U.S. History A	U.S. History A	U.S. History B	U.S. Government	Economics
4	Math 9A or Algebra 1A or Geometry A	Math 9B or Algebra 1B or Geometry B	Algebra 1A or Geometry A or Algebra 2A	Algebra 1B or Geometry B or Algebra 2B	Geometry A or Algebra 2A	Geometry B or Algebra 2B	Algebra 2A or Trigonometry or AP Calculus A	Algebra 2B or Math Analysis or AP Calculus B
5	Spanish 1A	Spanish 1B	Biology 1A	Biology 1B	Chemistry 1A or Applied Chemistry	Chemistry 1B or Applied Chemistry	Physics A or Psychology A	Physics B or Psychology B
6	Elective	Elective	Spanish 1A or Spanish 2A	Spanish 1B or Spanish 2B	Hospital Careers A	Hospital Careers B	Hospital Occupations A	Hospital Occupations B

BEST COPY AVAILABLE

Instructional strategies include allowing students to develop concepts about graphs and functions through interactive and user-friendly technologies, stimulating student investigation of real-world problems and providing mathematical topics and providing experiences that foreshadow the study of calculus.

Spanish

Courses offered are Spanish 1 through Spanish 4, advanced placement Spanish and literature. Objectives of the Spanish Department are for the student, within his or her ability and capacity, to grow in his or her ability to comprehend basic written and spoken Spanish develop appreciation of traditions and customs of Hispanic countries and their cultural impact on life in the United States; read and comment on authentic documents such as schedules, product labels, menus, calendars and advertisements communicate with native speakers on non-technical topics, including some medical situations and discuss the content of reading selections in Spanish.

The hospital calls on advanced students to serve as translators with their patients.

Social Studies

The general philosophy of the Social Studies Department is to promote a learning environment that stimulates the learner to use knowledge to create original ideas, to develop in each individual a personal desire to seek out information and then apply it to the various circumstances of life, and to move students from passive learning to active and aggressive learning. The social studies department has a built-in science and technology strand in most of the history, government and economic units taught. Thus, student research papers are expected to convey an awareness of the impact of the scientific literacy of the people under study on their ability to control disease, communicate over time and distance and distribute resources.

In the eleventh grade, students are assigned a social studies research paper on a topic related to the hospital. In the twelfth grade, students complete two term papers during social studies classes. One paper relates to social studies and one is assigned by the hospital, relating to the student's worksite experience.

In economics class, the information ascertained in history classes and the results determined in government classes are put into practice in a simulated attempt to produce a product and manage a business. The basic philosophy of economics, as it relates to the hospital program, is to create in students an awareness that medicine is directly affected by the social, political and economic environment of the country. In one exercise, students are assigned argumentative research papers analyzing a current controversy related to health care. They are then asked to simulate various health care professionals and to debate their respective viewpoints in a panel discussion of the topic at issue. In another exercise, students are assigned to health-related occupations and taught how to operate a business that produces a medical product needed by the general population.

Education and Career Planning

The major emphasis of this tenth-grade course is to provide the student with the ability to make wise decisions regarding educational and vocational opportunities and to set meaningful educational and career plans. Instruction provides students with the skills to set meaningful goals, make choices that result in the achievement of those goals, empower themselves by accepting responsibility for the decisions they make and to communicate effectively with others.

The one-semester course consists of four weeks of in-service training at the beginning of the semester, after which the tenth graders are assigned to worksites at the hospital. They then spend three hours, one day a week in a work-based learning situation. Each student is assigned to two different worksites during the semester.

Health

The purpose of this one-semester course is to develop concepts that will enable students to make decisions about emotional and social problems related to health care. The class covers personal and public safety, accident prevention, first aid and CPR. The course provides opportunities to study the relationship between human health and the quality of the environment in which people live. Students are taught to understand and decipher medical terms with extensive practice in word building, analysis of terms, pronunciation and spelling. They also become acquainted with the standard terminology related to anatomical systems, functions and disease and learn the effects of venereal diseases, alcohol, narcotics, drugs and tobacco upon the human body.

As with education and career planning, tenth graders spend the first month of the semester in the classroom and then begin worksite rotations.

Health Careers Survey

The major emphasis of this eleventh-grade course is to present a comprehensive survey of the opportunities available in health and human service occupations and the necessary preparation and skills required. The course reviews the training requirements for each job area, involving hospitals, dental offices, laboratories, public health clinics, and pharmacies. The course encourages in-depth study and discussion of the community health care delivery system, public and private health facilities and desirable personal qualifications for work in health occupations.

The first several weeks of the course are spent in the classroom. The eleventh graders then participate in two worksite rotations each semester. They spend five hours one day a week at their worksite, observing and assisting health professionals.

Hospital Occupations

This two-semester course provides orientation to fundamental skills used in hospitals and laboratories, including communication, basic anatomy and physiology, nutrition, diet, problems of aging and special geriatric needs.

Following several weeks of classroom training, seniors begin their worksite rotations. They spend five hours one day a week at one worksite each semester.

At the beginning of the school year, all students prioritize six to eight worksite choices. Twelfth graders get first choice, followed by eleventh and tenth graders. Students are assured that at some point during the three years they will get their top choices.

Science

Courses taught by this department include biology, applied chemistry, chemistry, physiology and physics. The goals are to imbue students with a curiosity and sustained interest in learning about natural phenomena; to guide students in the discovery of the role of science and technology in influencing historic events, culture, economics, health and medicine; and to provide an environment for mastery of scientific processes, vocabulary, facts and research methods.

Students participate in school-wide science project competitions, prepare senior research papers and then develop a three-part senior project. These activities all promote the application of scientific research techniques, scientific methods and skills and the development of mathematics and communication skills. The science staff monitors the scientific content, and the mathematics teachers help students calculate data and present it in graph form. The language departments (English and Spanish) provide guidance to help students report their experimental findings in the specific written format adopted by the scientific discipline governing the research, such as biology, chemistry or physics.

Science teachers monitor students at their respective hospital sites to help them correlate the scientific theory taught in the classroom with the various practical applications encountered at the worksite. For example, students at the radiology site observe the path of food through the digestive tract whenever a patient undergoes an upper GI examination. Students assigned to the eye clinic learn to make the connection between the physics lesson on optics and the patient's need for glasses.

The Arts

There are no fine arts or practical arts classes taught at King-Drew. To fill this void, various civic groups provide opportunities for the school to expose students to cultural activities in music, drama and art.

The Los Angeles Chamber Orchestra conducts six or seven free morning concerts a year, which tenth-graders are able to attend. Docents from the Los Angeles Music Center visit tenth-grade English classes a few days prior to the concerts to make sure the students understand and appreciate the performances.

Theatre As a Learning Tool presents two or three dramatic performances each year for the entire student body. English teachers participate in weekend workshops offered by the Theatre. Lessons for students are developed and presented before and after each performance.

When they became aware of the school's need for an art class, the Museum of Contemporary Art sent two teachers for the next two years to offer art classes for tenth graders. The classes were conducted in two-hour sessions one day a week for six weeks. Each class completed three projects, which were exhibited at the end of each unit.

Integrating Disciplines and Worksite Learning

All the teachers use worksite experiences as a foundation for vocabulary building, oral presentations and journal writing, especially in tenth-grade English, health, education and career planning and Spanish classes.

Teachers make every effort to coordinate what they are teaching in various disciplines. For example, when students in biology are studying the various systems of the body, the Spanish teacher will assign art projects and displays of these systems in Spanish. Literature studied in English classes includes biographies of scientists (including women scientists) and literature with medical themes.

All twelfth-grade students complete two research papers based on investigations conducted at their two senior-year work experience sites. Students are also required to complete a science project every year and are expected to draw on their work experience and use the Drew University medical library as a resource.

Extracurricular Activities

When five or more King-Drew students wish to form a club, they may do so after finding a faculty sponsor. As a result, a wide variety of clubs and sports teams have been organized. Groups of students also volunteer to participate in various district, county, state and national academic competitions such as the Model United Nations. Teachers solicit and sponsor students who are willing to devote many hours to study after school and on weekends to represent the school in these competitions.

Summer Programs

The school helps students arrange summertime learning and work experiences. Grants have been established that allow students to work at summer research programs at the University of California at Los Angeles, California State University at Dominguez Hills and at Los Angeles, the University of Southern California, Charles Drew University and Kaiser Permanente Hospital. Many students attend special college programs offered for eleventh and twelfth graders. King-Drew students have been placed at Oxford University, Harvard University, Howard University, Hotchkiss, Spelman and private college preparatory schools such as Exeter and Andover. A large number of students enter Upward Bound programs, in which minority and at-risk students experience living on a college campus and attending classes.

The Principal's Precepts

During my 10 years of coordinating and developing the program as principal at King-Drew Medical Magnet High School, I identified certain key precepts of paramount importance that I emphasized to my staff:

Public education is an equalizing device to equip students with knowledge and skills that will carry them onward and upward throughout their life.

49

Public education must nurture mental growth through challenging and motivating teaching methods, constant patience, tolerance and assurance that participation in the system produces personal satisfaction and flexibility to deal with the ups and downs of life.

Public education must realize that it is a system for implementing changes, bearing in mind that it is constantly at risk due to the multiplicity of values and diversity of the people it serves.

The organizational structure, instructional practices and professional relationships observed by students must provide evidence to them that they are capable of success, and that school success is worth having.

Effective leaders must have a clear vision and the determination to achieve high success levels, regardless of obstacles and barriers.

All members of the school staff must be apprised of the significance of the effort they put forth and be assured that their efforts and abilities are recognized and appreciated.

Implementing changes involves risks, both personal and professional. Risks must be taken, as the greatest hazard in life is to risk nothing. It must also be understood that improvement does not occur overnight, but instead requires sustained effort over a long period of time.

Schools with effective leaders, a demanding curriculum, a strong student support system and able staff will raise student achievement.

Advice For Creating a Career Academy

The value of the following key people to our effort cannot be over-emphasized: the magnet coordinator who represented the school and developed and maintained relationships with the various worksites; the health care liaison who worked with the magnet coordinator and represented the partner or industry providing the worksites; and the curriculum consultant who worked with the staff on all matters relating to curriculum development and planning.

New programs require an allocation of funding for a minimum of one year of planning time before implementing the program.

There are many issues, legal, administrative and regulatory in nature, which must be resolved by all partners of the joint venture.

Many teachers have difficulty merging the knowledge students obtain from the worksite with their instructional program. Therefore, it is imperative that teachers are given opportunities to observe students at their worksites, that time is provided for planning and sharing their observations, and that they are constantly encouraged to relate the worksite experiences to classroom instruction.

When seeking to raise student achievement, a strong tutorial and counseling support system is imperative.

What Our Success Means

In a democratic society, education is the key that opens doors to the future for our students, our community and the national workforce. Education's role will be even more critical to the citizens of the next century, because of the highly technological infrastructure this nation has developed.

Communities have come to recognize the value of a partnership between education and the world of work. Education can no longer remain the exclusive domain of the school system. Our success at King-Drew has shown the positive effect that school, community and workplace collaboration can have on students. Combining the resources of the community with those of the education system can produce the partnerships that enrich the high school curriculum and point students toward richer lives.

Shirley Earlise Starke was principal of King-Drew Medical Magnet School from 1984 through 1994.

A Student's View of King-Drew

The following reflection was written by King-Drew senior Tomorrie Anice Cook in June 1994.

As I prepare to graduate, I can reflect on the past three years at King-Drew and recognize the enormous part that the King-Drew family played in my development and maturation. This special high school has given me the opportunity to grow in ways that I would never expect from a regular high school.

As I think about it, I realize that King-Drew is not an ordinary high school. Here I was given the chance to look at the world for myself and develop my own political beliefs. I was taught what others have traditionally believed, but I was not forced to look at the world-with their opinions. I was taught how to organize my arguments and make them more persuasive. I was shown how to logically come to conclusions only after all of the information has been carefully reviewed. I have learned to appreciate and take note of history because I simply do not want to be damned to repeat it.

I have been given the opportunity to travel to different worlds without ever leaving Los Angeles by simply being handed a book. I have been able to explore myself and transfer those feelings to tangible, written ideas. I have been given a gallery to showcase my talent of writing poetry, essays and short stories. I have developed a more sensitive skin to injustices to any people, especially those committed against people of color world wide. I have been forced to put my abstract ideas about literature (prose and poetry) down on paper and hope for the best. I have learned that study is necessary even when things seem to come "naturally."

Although I have never either enjoyed or done exceedingly well in math, I have seen that hard work pays and that you reap what you sow. I have been exposed to the notions that mathematical problems develop not only an ability to count money but an ability to figure out complex life problems that everyone faces every day.

The value of asking questions until you "get it" has been implanted within me, as has a determination to do my absolute best even in classes where I feel swamped or confused. I have learned of Darwin's notion of only the strong survive, of the importance and relevance of the Periodic Table, and of the primary and complementary colors.

Most importantly, in my estimation, is that I have learned that each individual has a responsibility to his or her community. Through volunteering at King Hospital, Ella Fitzgerald Child Care Center, Tillmon Child Care Center, The Watts Health Foundation and UCLA Medical Center, I have felt the immense pleasure of having served my community.

Before entering King-Drew, I knew that to volunteer meant to not get paid, to offer needed services free of charge, to gain a sense of fulfillment from helping someone else—but I did not know what it meant to volunteer. I had no idea that volunteerism was so treasured in settings such as understaffed hospitals or child care centers. For three years I have explored possible careers and have been thrust into an environment where all of my questions could be addressed. I have been able to interact with several medical professionals and I have learned how to tailor my behavior to fit any circumstance, including being very business-like when the time calls for that. I have been mistaken for a nurse, for a medical student, and once or twice for a physician which made me feel like my little bit of help was important to someone who may have desperately needed someone to just smile at them.

As a direct result of being a King-Drew student, I have been granted the chance to participate in the Los Angeles Mentor Program offered through Drew University (which in turn allowed me to visit Washington, D.C., all expenses paid). In this program I was again reminded of the importance of volunteering both in the hospital and with the mentally ill.

I may not have a lot of money, but the King-Drew experience has made me a much richer individual. I have watched my peers grow into young people that I know will be admired and respected in all of their pursuits and I, too, have grown in ways that I never thought possible. I believe that my high school teachings have shown me that I must value education and attain as much knowledge as possible. Only someone who has matured can say with feeling and honesty that "I want to attend a college or University so that I can give back. I don't want a college education so that I can have a diploma to hang on my wall, nor do I want it to make a lot of money. I need it to understand more fully the problems that my community and my people face daily so that I can propose solutions.

All I can say about King-Drew is that I am forever grateful to this institution that has played such a pivotal role in my maturation and development.

CHAPTER 6

Case Study:
Occupational Clusters Model

By John A. Polto
Dauphin County Technical School
Harrisburg, Pennsylvania

In 1995 the Dauphin County Technical School (DCTS) marked its 25th anniversary and the 13th year of our restructuring efforts. For our first 12 years, DCTS operated as a regular high school with independent academic departments and coursework that was self-contained—not only by curricular areas but by level. But in 1982, as the new administrator and I began reviewing student success, several things became obvious.

First, the occupational level of our graduates was excellent. Many of our students had jobs prior to graduation. The demand for our students outweighed the supply in many of our occupational areas. Second, our students were not growing academically. We found, through standardized testing, that if a student entered into our tenth grade with an academic level of ninth grade, for example, upon graduation he or she tested at ninth-, eighth- or even seventh-grade ability. Clearly, something was wrong.

Making Academics Relevant

We didn't believe the students were losing their academic ability. Our interpretation of the test results was that our students, as a whole, were totally turned off to academics. They did not see the importance of subjects that were so removed from their goals in life, and there was no effort on their part to try to assimilate this theoretical thinking into their practical lives. We thought that if we were able to make academic learning a little more like their occupational learning, a little more practical, the students would see the relevance and spend the necessary time to master academic skills.

To accomplish this, we changed the organization and curriculum of the school, creating four career clusters that included both vocational and academic instruction. Students still received their full complement of coursework. However, there was no longer an artificial two-track education system, one vocational and the other academic—both parallel but never touching.

Today, test scores show that students leave DCTS two to three grade levels above where they were when they entered tenth grade. DCTS's structure and curriculum reflect a pioneering model that has gained world-wide attention.

Making it Happen

In 1982, the school's new director became concerned about making instruction better organized and learning more relevant for vocational

---

The Dauphin County Technical School (DCTS) is located in suburban central Pennsylvania just east of Harrisburg, *the State Capital. We serve approximately 820 students from the six school districts that surround Harrisburg. The Dauphin County Technical School is a full-time vocational high school, housing Grades 9-12. Students come to us on a full-time basis, with approximately 10-15 percent returning to their home school for afternoon activities such as interscholastic sports, band and chorus.*

52

students. He began with a year of observation and planning.

The school's organizational concept was one of traditional thinking, with separate departments focused on specific areas of instruction. There was the vocational department, with 21 teachers; the English, social studies, math and ancillary (health and phys ed, librarian and other miscellaneous teachers) departments with six teachers in each; and the science department with five.

When I joined the administration that year, my first assignment was to chair the Curriculum Committee, made up of the six department chairs. This committee had the responsibility to recommend all curriculum decisions to the administration. The way this committee operated had to change before we could change our curriculum. The votes on decisions were always strictly by curriculum lines. I don't remember any vote that affected "the way things were" that was not a five-to-one vote, with the one being vocational. Decisions were based on certification and tradition, not on what was best for the student.

During department meetings, I found that discussions were always centered on the department's specific curriculum area, books and/or budget. I never heard any discussion concerning a specific student. This was not surprising since these teachers never had the same students at the same time. They taught by specialty - English 10 or English 11, General Math or Algebra 1 or Trig, World Cultures or American Cultures. All that the teachers had in common were books, curriculum and budget, not students.

Vocational Clusters

We began our reorganization in 1983 by grouping the 20 vocational programs into four clusters: Construction, Manufacturing, Services, and Communications and Transportation. We used the U.S. Department of Labor's *Dictionary of Occupational Titles* to categorize similar occupations, expanding on the theories presented by Donald Maley in his book *Cluster Concept in Vocational Education*. For example, the Construction cluster included vocational programs such as carpentry, electricity, masonry and plumbing. This allowed for a broader base in transferable occupational skills but still provided a focus for the career-specific or occupation-specific skills that our employers demanded. Although we originally scattered technical occupations such as drafting and technical design among clusters, we later eliminated the Manufacturing cluster and created a cluster of technical occupations requiring postsecondary education.

With the reorganization we eliminated the position of Vocational Department Chair and selected an individual in each cluster to serve as cluster manager. Now the Curriculum Committee was made up of five academic department heads and four cluster managers. By magic the votes were now five to four. The academic influence still dominated in a vocational high school, but we were gaining.

Structural Integration

The second step, begun in 1984, was to incorporate the academic teachers into the occupational clusters. The administration conducted in-service programs about curriculum integration, informing teachers that beginning with the new school year, academic courses would be combined into the clusters and work would start on a competency-based academic curriculum. Even though the administration thought there had been adequate preparation, there was mass confusion and antagonism at this "new" organization. I received comments like, "I knew you were going to do this, but not to me!" and "I thought this was for the other certified areas, not for mine. Mine is too important." and "How dare you force me to water down my curriculum?"

In spite of some resistance to change, we moved ahead with our reorganization and curriculum revisions. As shown in the chart on the next page, in addition to the vocational programs in each cluster, we added a language arts (English) teacher, math teacher, social studies teacher, science teacher, health and physical education teacher, co-op coordinator (school-to-work coordinator) and a guidance counselor. Where our staff size did not allow for one person per cluster (as with guidance and co-op), a counselor or coordinator worked with two clusters.

This arrangement allowed for horizontal integration of the curriculum between academic and vocational subjects. Another asset was the blurring of the curriculum lines between academic subjects. Language arts teachers found that there was much in common with social studies, and math teachers found much to integrate with science. In fact, many units allowed for team teaching both in the academic and vocational classes.

Curriculum Revision and Integration

In 1984, we also began an extensive, on-going program of curriculum revision, to develop a competency-based model (hands-on, practical, relevant, but not watered down). Academic and vocational teachers met to determine where the existing core curriculum dovetailed with vocational instruction and what additional competencies or greater subject complexity were necessary for specific occupational skills. For example, in the masonry occupation, math is important to the inch; for machine shop, math becomes trigonometry, important to 64ths of an inch. The school's business advisory committee also participated in the revision process, recommending academic competencies as well as occupational competencies needed for employment.

The administration set the general direction, then told the teachers, "Try it, don't be afraid to fail." No deadline was set, and everything was open for discussion. It took four or five years until the teachers were satisfied with the curriculum. And even then it changed somewhat every year, based on the needs of the students and the local business community. For example, we originally had everyone take a computer literacy course. Within four years, many of the students coming to the school were already computer literate. Since they had outgrown the course, we changed it to cover software applications.

Using the same vertical concept with the academic courses as we did with the vocational ones, the academic teachers now taught all grade levels within their cluster. In other words, a student had the same English teacher for Grades 10, 11 and 12. This provided for a continuity of curriculum, with no artificial breaks in the material. Students were able to pick up their work in September where they left it the previous June. More importantly, the same teacher was able to build rapport with the students and the students with the teacher. This has always been an advantage in vocational education and we have now included this benefit in our academic program.

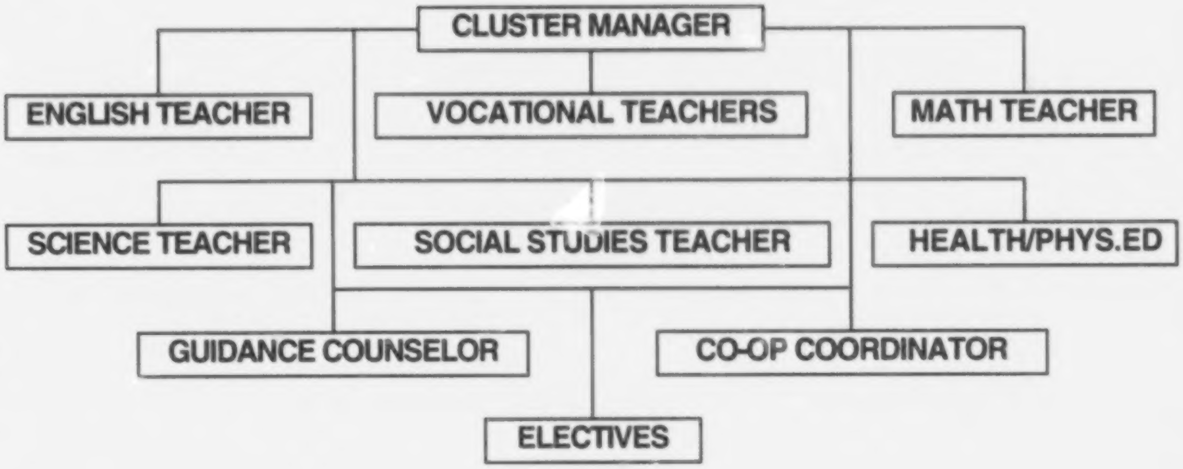
Although there was some resistance to teaching all grade levels, it lasted less than one year. The teachers became very positive as they recognized the advantages of working with the same students for three years. Initially, members of the cluster had to really get to know one another. They had worked in the same building for many years but had never really worked together. The sharing of teaching techniques, the sharing of successes and failures and the sharing of classroom management skills are all of a very personal nature. You have to trust someone to enter into this kind of sharing. It did begin to happen. I heard teachers asking other teachers for advice. I heard teachers sharing some of their most guarded techniques. I heard teachers discussing students. This became a major advantage to the cluster—teachers all had the same group of students. There could be real instructional planning and strategies developed to help individual students. We began to feel that this was real teaching, this was real education.

Where We Are Today

Dauphin County Technical School has fully integrated its academic and vocational programs without an increase in budget or staffing. For Grades 10-12, the curriculum is organized into the four career clusters. The ninth-grade program is primarily an exploratory program that allows all of the students to have some experience in all of the vocational programs.

The Ninth Grade Exploratory Program is a unique program and could take an additional chapter to discuss. For all ninth graders, the English,

DAUPHIN COUNTY TECHNICAL SCHOOL
CLUSTER ORGANIZATION


CLUSTER MANAGER
ENGLISH TEACHER
VOCATIONAL TEACHERS
MATH TEACHER
SCIENCE TEACHER
SOCIAL STUDIES TEACHER
HEALTH/PHYS.ED
GUIDANCE COUNSELOR
CO-OP COORDINATOR
ELECTIVES

TECHNICAL CLUSTER

*Electronic Technology
*Data Processing Technology
*Drafting & Design Technology
*Health Assistant
*Law Enforcement

SERVICE

*Child Care Attendant
*Cosmetology
*Food Service
*Marketing/Distributive Ed.
*Ornamental Horticulture

COMMUNICATION/TRANSPORTATION

*Auto Body Repair
*Auto Mechanics
*Commercial Art
*Graphic Arts
* Precision Metalworking

CONSTRUCTION

*Air Conditioning/Refrig.
*Building Construction
*Carpentry
*Electricity
*Masonry

Revised: 9/93

math, science and social studies classrooms are interconnected and the teachers of these disciplines do a lot of team teaching and joint lesson planning. This prepares the students for the curriculum integration that will begin in their 10th-grade cluster program. All ninth graders also try out every vocational program for two-and-a-half days. After this exposure, in late February, the ninth-grade students select a cluster and begin their basic competencies in the program of their choice.

For the clusters, DCTS operates under what we call a "week-about" system, with students alternating weeks between vocational and academic courses. During one week, half of the students in a cluster will be in their vocational program all day, every day. This schedule best simulates an actual workplace, with one start-up, a lunch break and one clean-up. It also allows the students to spend more time on-task.

The other half of the cluster is receiving academic instruction, which is organized into eight periods. Because students take academic courses only every other week, they take two periods a day, rather than one, of each academic course. We have found it works best to schedule the two periods of each course back to back. This longer time period for each course gives the teachers greater flexibility to cover material in depth.

In the future, the administration hopes to eliminate all bells in the building and give each cluster the flexibility to design its own academic schedule. The teachers will decide among themselves who will teach what on any given day and for how long.

Academic teachers in the same certification area, such as social studies, meet together as a Curriculum Committee to discuss books, budget and the core curriculum in that area for the total student body. The teachers bring the information from their committee back to their cluster for decisions about integration and team teaching. Curriculum development occurs on designated Curriculum Days, when a teacher or group of teachers spend the school day writing and planning integrated curriculum.

Instead of department meetings, we now have cluster meetings. Meetings are held at least monthly, more often if the managers or members of the cluster request it. They are held after school, on the members' own time.

Integrated Disciplines

An examination of the content and structure of classes in the traditional academic disciplines reflects how far we have come in integrating our curriculum.

Language Arts (English). All of the units covered before the curriculum integration are still covered over a three-year period (Grades 10 -12). The course contains skill units in reading, writing, communications and old and new literature. The sequence may be different from cluster to cluster, the examples used will vary from cluster to cluster, but the core curriculum remains the same. It is important that examples and subject matter used be appropriate to the cluster. The skills are common but the way the material is presented must be unique to the cluster. There should also be sufficient opportunity to relate to other academic areas as well. As the coursework progresses, each unit needs to be completed by a specific time. However, work not completed in one year will carry over into the next year so that students really do work at their own speed and ability. Students are asked to contract with the instructor as to the amount and level of work to be accomplished. This places much of the responsibility for learning where it belongs—on the student.

Social Studies. Social studies was organized differently from the very beginning. Since the instructors felt that it would be too difficult to specifically relate social studies to individual vocational programs or clusters, it was decided that the integration effort be directed to vocational education in general. Courses were developed so that this relevance would be obvious to the student. For example, the courses American and World Cultures study people and their histories as they relate to the technological advances of those societies. A course called World of Work studies job seeking, finding and keeping skills and was integrated with the individual vocational programs and the language arts program. Letters of application, resumes and interviewing skills are all presented to the students in the various academic and vocational programs.

Social studies also offers courses in economics, psychology and family living. This latter course presents an unusual opportunity for the child care instructor to integrate various skills into the curriculum. Skills in baby care, bathing, diapering and feeding are taught to all of our seniors, along with such survival skills as budgeting, shopping and hunting for housing.

Math. For our math curriculum, the teachers developed a list of competencies applicable to each of the traditional math courses. These were placed on a continuum, or line, similar to the competency list in occupational programs. The continuum begins with basic math and proceeds through the competencies of pre-algebra, Algebra I, algebra II, geometry, trigonometry, pre-calculus and calculus.

Students are tested and must begin at the competency level at which they tested. No longer is a student allowed to choose a course that is below his or her competency level. They must always be moving forward, never backward. The student becomes as responsible for his or her curriculum as the teacher. Much of the work is independent or group work, and there is as much relevance as possible to the occupational courses in the cluster. This is a much more complicated approach and involves considerable communication between the math and vocational teachers.

In the 1994-95 school year, we stopped using formal course titles on course schedules and report cards and began calling the courses Math Level 1, Level 2, Level 3 and Level 4. We did this to take away the fear many of our students had about the word "algebra," and found they did very well with the actual calculations when the course was called something else.

Science. In Pennsylvania, a science teacher must be specifically certified in biology, physics or chemistry. Consequently our science teachers teach across clusters. Therefore, the science teachers must prepare their curricula to integrate with all 20 of our vocational programs, not just the five in a single cluster. The slant of biology, for example, depends on whether the students are from the food service, ornamental horticulture or cosmetology occupational program. We also use a commercial program, Principles of Technology, with all of our junior students. We feel that it is an appropriate course for technically minded students.

Software Application. All of our tenth-grade students are taught a course in software application. We use vocational instruction time to give this course, pulling students out of their vocational program for one period a day and integrating the software applications with what students are learning vocationally. Skills in word processing, database and spreadsheet are presented as they would normally be found in that specific trade or professional area. The grade achieved by the student is incorporated into his or her vocational grade. It is truly an open entry, open exit program. The students are presented a list of competencies that they must pass. They must achieve all competencies before they are permitted to return to their vocational classes.

The Fruits of Our Labor

Have we achieved our objective of getting students to recognize the importance of academics? Partially. Our average test scores on the nationally standardized 3-R's Test of reading, writing and math skills are now in the 42nd percentile, up from the 25th percentile. An improvement but not where we want them. Are students growing academically? An emphatic YES. On the scores of tests given in the tenth, eleventh and twelfth grades we see the type of growth that you would expect over a three-year period. When we began our restructuring, there was a drop in students' test scores from tenth grade to twelfth. This was followed by a return and leveling off to previous scores and now we are seeing an increase.

Instead of testing in large groups, we give the standardized test during English and math classes and occupational teachers come by to show their interest. We believe the students' improved scores reflect a better understanding of academic competencies as well as their ability to take tests better.

Are we finished, have we accomplished all that we are going to? No. We see this model as ever evolving. There are always new things to be done. After all, we always have new students and their needs are varied and many.

Advice For Revising Your Curriculum

Prepare Teachers Carefully

When we started our restructuring, it became obvious that we had informed but not properly prepared our teachers. Before such a drastic move is implemented, make sure your personnel are adequately prepared. In hindsight, we might have been more successful if we had held more in-service sessions with the academic departments and made assignments before the summer rather than waiting until fall.

Change is a difficult concept to accept. Change is a loss to someone and people must be given an opportunity to mourn their loss. Remember, however, that when the mourning period is over, get on with life.

Elect Cluster Managers

Restructuring of departments, such as our reduction from six department chairs to four cluster managers could create a problem due to collective bargaining agreements. It was a major concern for our faculty. The administration overcame that concern by being open and honest with our teachers' association and the teachers in general. The cluster manager of each group is elected by that cluster to serve a term of three years. This position has nothing to do with seniority or curriculum certification. In fact, it has nothing to do with the existing teachers contract. The position carries a yearly stipend of $1,500.

Provide Curriculum Days

To provide teachers with the time to revise the curriculum, we created "Curriculum Days." It was not fair to expect a teacher to be creative at 3:10 in the afternoon after he or she had been creative all day with students. Since our budget did not allow for paid (per diem) time over and above the contracted school year, we elected a different route. A curriculum day is simply a day where a teacher, or a group of teachers, meet during school time to write and plan integrated curriculum. The class is covered by a substitute (a much smaller dollar outlay for the school district) but the teacher is available in case there is a problem. This arrangement has proven to be a very practical way of handling this problem.

Establish Academic Curriculum Committees

Another problem occurred early on in our restructuring. From time to time it was necessary for teachers of like certification such as math or science to meet together and discuss the core curriculum in that subject for the total student body. It became apparent, however, that unless a committee or an organizational group was established, there was no opportunity to meet. It was not enough that these teachers all worked in the same building, there had to be an "official" meeting called. Understanding this need, the administration created "Curriculum Committees," with the responsibility for discussing core curriculum, books and budget. Each committee has a coordinator appointed by the administration.

It must be understood, however, that any successful work in integration and team teaching must occur within the cluster and not in the curriculum committee. Otherwise you will return to the organizational structure of departments which does not allow for complete integration of curriculum, neither vocational/academic nor academic/academic.

Give Early In-Service Training

Through a series of in-service programs, we have tried to meet the needs of our faculty. A committee made up of teachers and administrators has developed our in-service programs over the years.

We have had programs on team-building, classroom management, cooperative (collaborative) education, learning styles, teaching techniques, instructional support and learning disabilities. These have been very worthwhile.

One major complaint was the timing of the in-service days. Since they were spread throughout the year, and even at the end of the year, there often was not time to put the new ideas into practice. At the request of the teachers, all of our in-service days are now scheduled at the beginning of the year so that proper planning and adequate implementation time is available. This has proven to be extremely valuable.

Involve Parents

It is critical that parents are involved in this type of instruction from the very beginning. They must be told about the restructuring as well as the students.

Many schools give lip service to the need to involve parents, but in practice don't call parents until there is a problem with a student. We have found it is essential to initially contact parents in a positive way, so that if you do need to discuss a problem with them later, there is some relationship in place. Our teachers are in contact with parents on a regular basis. Parents receive progress reports four to six times a year and phone calls when any changes are planned or a student is having problems. Although we did not hold a meeting for parents when we initiated the restructuring, we did have a session about the new math program.

Get Community Support

We strongly recommend that those contemplating such changes as ours have the total backing of the school board, the principals of the home schools and the business community. The members of our business advisory board were very excited and very supportive about the restructuring.

Reconsider Extracurricular Activities

There has been some criticism that DCTS does not offer interscholastic and extracurricular activities, even though the school is a full-time high school. We decided that it would be better to use our resources for the academic/vocational needs and to enable students to attend their home schools for after-school activities. Currently between 10 and 15 percent of the students participate in those activities. Most of the students have jobs after school and would not take advantage of the activities if we offered them.

Final Words

At DCTS we subscribe to the "holistic" approach, a total educational program made up of both vocational and academic courses, all of which are integral to the students' education. We believe each course is important and dependent upon the others. Coursework, be it academic or occupational, is presented in a fashion related to how we live. The program of instruction being offered to our students is a total program, made up of both academic and vocational courses. It is integrated, relevant and meaningful.

Are we totally satisfied with what we have accomplished? No. We will never be satisfied. To truly present an integrated, related, relevant curriculum to our students, we must be in a constant state of change. As new students enter our programs, curricula must be presented in varying ways to meet the needs of these students. If we ever feel that we have done enough, then we will fall behind and begin to teach a stale curriculum meant for students in last year's classes.

I would like to invite you to join us in the march toward a new image of vocational-technical education, an integrated kindergarten-through-graduate school career planning and development program, a new tomorrow in the education of our young people, a new approach to the education and re-education of our adults.

John Polto is currently the Vocational Administrative Director at Dauphin County Technical School. Prior to becoming director, he served as Supervisor of Vocational Education and Assistant Director. As the curriculum specialist at the school, he helped create the cluster structure described in this chapter. Polto received his BS degree from Ursinus College, Collegeville, PA and his MEd and Directors Certification from Temple University. He has worked as a self-employed Painting-Wallcovering Contractor.

CHAPTER 7

Case Study: Tech Prep Model

By Stephen Olczak
St. Mary's County Public Schools
Leonardtown, Maryland

> *"In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists"*
> *— Eric Hoffer*

In 1988, St. Mary's County Public Schools realized that it was not meeting the challenges caused by growth and change in the community. While 60 percent of our students started high school taking college preparation courses, 60-65 percent graduated with a "general" high school diploma that did not prepare them well for further schooling or work. Of the 225 students attending the St. Mary's County Technical Center, 30-40 percent were in special education. Students who went to college left the community, and local employers complained about the low caliber of technical graduates. Skilled employees had to be imported from outside the county.

Today, a tech prep/school-to-work program providing students with high academic and technical skills is in place at St. Mary's high schools and nearby postsecondary institutions. The graduates of this program go on to more schooling or success in their chosen field. Almost a fourth of graduating high school seniors receive advanced standing at Charles County Community College for courses completed in high school. Enrollment at the Technical Center has increased to 650 students. Ninety-three percent of those students who completed the tech prep/school-to-work program through the St. Mary's County Technical Center went on to further schooling or good jobs in 1995.

Our Goal: Lifelong Learning

In 1988, several key people in the St. Mary's County school system—mainly the Director of Curriculum and Instruction, the three high school principals, the Technical Center Principal, the Supervisor of Career and Technology Education and several community leaders—began the process of restructuring school practices and curriculum. Our goals were to integrate academic and vocational curriculum, to provide each student with a clearly defined sequence of courses that is both challenging and career-goal oriented and to include postsecondary training as an outcome for all programs and all students. As students prepared for the workplace, we wanted them to realize that

---

St. Mary's County, Maryland, is located on a peninsula approximately 60 miles southeast of Washington, D.C. *Old St. Mary's City was the first settlement in Maryland, dating back to 1634. For most of its history, the region has been known for its agriculture and seafood industries. In recent years, the Naval Air Warfare Center at Patuxent River has become the primary employer in the community. With its high-tech research and development emphasis, the Naval Air Warfare Center brings new skill demands to a community of rural farmland and waterways—a community in the midst of growth and change.*

The St. Mary's County Public Schools serve 13,000 students (K-12) with a variety of programs and services. The school system has three high schools (9-12), each enrolling between 1,100-1,200 students. A career and technology center serves all three high schools with a daily attendance of 650 students.

continuing their education was a requirement of the new workforce and that career plans must extend well beyond high school.

To achieve these goals, we restructured our public school curriculum around four career clusters and created applied academic courses that united academic and vocational learning. We eliminated the "general track" high school diploma that most students were receiving. We also created articulation agreements with Charles County Community College.

How We Made it Happen

Forming the Partnership

A 1988 analysis of data on our public schools revealed how inadequately we were preparing students for a meaningful postsecondary experience. School personnel began meeting to look at common issues related to student performance and outcomes. Between 1988 and 1989, educators and business leaders met to plan goals and objectives for revising our curriculum and creating a tech prep program that would continue students' education after high school. We formed the Southern Maryland Educational Consortium as a partnership between the three southern Maryland school systems and the local community college, to provide a regional approach to high school reform.

The consortium made presentations to civic groups about our findings and invited employers into the Technical Center to look at its resources and needs. Business community leaders joined school leaders, Charles County Community College President John Sine and School Superintendent Bill Burroughs to support fundamental change in how we educated high school students.

Our efforts to promote academic and vocational education and eliminate the general track diploma took off when the State of Maryland and Assistant State Superintendent Kathy Oliver helped St. Mary's County become one of the 28 original pilot sites for the Southern Regional Education Board's *High Schools That Work* program. Gene Bottoms, Director of SREB, helped us analyze data, generated enthusiasm and provided the big picture for making a smooth transition to an integrated curriculum.

It is worth noting that the early efforts of the St. Mary's County program preceded the 1990 Carl Perkins Act and funding for tech prep. The vision of *The Neglected Majority* by Dale Parnell (we purchased 60 copies and made it required reading for all) coupled with our work with the Southern Regional Education Board inspired our community to act.

Preparing for Curriculum Reform

Initially, we realized that the magnitude of curriculum reform necessary to adequately prepare our students would take a major investment in time and resources. We also realized we needed to broaden our understanding of applied instruction as well as curriculum design. Teachers from the high schools and community college, along with our business partners, attended extensive summer workshops run by the county. Teachers also visited worksites and participated in professional conferences conducted by SREB on applied instruction practices.

In 1992, a two-year grant from the U.S. Department of Education selecting the Southern Maryland Education Consortium as a national demonstration site enabled us to intensify our efforts in staff development and curriculum revision. The grant provided resources to enhance our programs and model practices for other emerging tech prep consortia. Our participation in the SREB initiative also provided many opportunities for staff development and networking strategies with other school systems.

We created four career clusters—Four-Year College/University, Engineering Mechanical Technologies, Business Management Technologies, Health/Human Services Technologies, described in greater detail later in the chapter—for all St. Mary's high school students. We found that curriculum subcommittees, by cluster and specialization, emerged as the career clusters were created. The subcommittees included high school and community college teachers, business representatives and, as needed, outside experts. These specialists were individuals who were running programs elsewhere in the country or who were recognized in the field. We brought them in to lead workshops or sent subcommittee members to observe their programs.

Revising One Discipline at a Time

In moving to a more applied, integrated curriculum, we decided to target individual disciplines as resources permitted, with mathematics the first focus. This was an obvious choice based on both the condition of our math program and the need for increased academic rigor.

Mathematics

We selected the applied math curriculum developed by the Center for Occupational Research and Development (CORD) for our model and modified it to develop two new courses, an applied algebra class and an applied geometry class. These two courses were aimed at ninth- and tenth-grade students and ran parallel to our college prep Algebra 1 and geometry classes. For the first two years we continued to offer the general math course to avoid disruption and allow the teachers to become familiar with the new courses in small classes.

By 1991, we were comfortable enough with this approach to eliminate our general mathematics program. Since then it has been a requirement that all students complete three years of mathematics, including a course in algebra and geometry.

Students in need of remediation may enroll in a mathematics assistance class. However, this class is an elective and does not replace the required three years of mathematics. Excluding special education, less than five percent of our students require this remediation class. Special education students may be exempt from these standards, based on their Individual Education Plan and handicapping condition. However, many of our special education students, with appropriate assistance, will complete these requirements.

Our intent is to narrow the performance gap between the tech prep and college prep students. There is now only a five-to-ten percentile difference in test scores between the applied and college prep algebra and geometry classes; when we introduced the applied courses there was a 30–40 percentile gap.

Physics and Chemistry

The early efforts of our mathematics revisions were followed by courses in applied physics and chemistry. We followed the same gradual process: introducing the applied courses while still offering the general courses, then eliminating our general courses and replacing them with the new applied academic courses with strengthened requirements.

Applied Communications

We took a different approach in incorporating the applied curriculum with English classes. Rather than creating a single, stand-alone applied course, we took apart the CORD applied communication curriculum and, in 1993, began inserting appropriate activities and modules from it into all four years of English. In this way, all students began receiving instruction in both applied communication and literature.

For example, in the process writing module, students learn to put information in a sequence by describing a 15-step process (such as changing a tire) and writing it up. Students also make oral presentations in class and, to improve narrative writing skills, prepare reports about their career goals and the strategies they are using to reach them.

Technology Courses

In 1992, we initiated an Introduction to Technology course for ninth-grade students. Our intent was to combine the best features of our career counseling emphasis, applied academic curriculum and technology focus into an initial high school course that would be a springboard to higher levels of specialization in our emerging Program of Studies. Within a year this had become three courses: Introduction to Engineering/ Mechanical Technology, Introduction to

Business/Management Technology and Introduction to Health/ Human Services Technology.

By design, these courses matched three of our four career clusters. College/University cluster students must select one of the three introductory courses; all other ninth-grade students take the one appropriate to their chosen career cluster.

The technology classes were designed around an applied academic format. Students work in teams at learning modules and activities designed around their chosen cluster. The course content integrates math, science, technology and communication skills with real-world application. Students develop products relative to their career interest.

Hands-on experiences and learning by doing are the goal. For example, students in engineering/mechanical technologies build model boats, magnetic cars, bridges and gliders to given specifications. Hydraulics, pneumatics, fiber optics, laser technology and other modules focus on systems integration with technology applications.

Modules in the business/management technologies include desktop publishing, computer networking and a simulated office. In the health/ human services technologies, modules include environmental sciences, child care, nutrition and food science and computer assisted drawing. In the audio lab, students design and develop their own advertisements and commercials.

All students participate in classroom experiences and outcomes not driven by pencil/paper results, but by projects and production results. A major benefit is connecting these activities to career opportunities and higher level academic applications.

Currently, three technology laboratories exist at each high school, and, as the students select a high school career cluster, they enroll in the corresponding introductory class. This course has been instrumental in promoting our Program of Studies philosophy. While the course is required, and meets the state graduation requirement for one credit in technology education, it does not count as a core subject. We expect much more of our students.

Support for a Challenging Curriculum

When a school system revitalizes its curriculum to be more challenging for all students, there is a risk that some students will not meet the additional expectations and will fail or drop out. Students may ask themselves why they should respond to these expectations—why not just skip classes or even drop out? Students must connect increased expectations to a sense of purpose, or your efforts will fail.

We decided to address this risk by establishing an intensive K-12 career guidance effort to build a foundation upon which students could begin to see the connection between school and work. If students can see the relationship between what they learn and what they want to do, then they are more likely to invest personal commitment and effort in the program.

The key elements of our career guidance effort are:

Elementary level: Career awareness activities merge basic academic skills with workplace application around careers to stimulate students to learn. For example, students visit workplaces, such as a firehouse, and write about their visits; parents make presentations in the classroom, bringing tools and instruments they use in their work; and students write about these experiences.

Middle school level: Career exploration activities include aptitude and interest surveys, career mentoring and job shadowing, career fairs, business visitations and speakers. Students use Career Folders to record and track interests and exploration activities into high school. The middle school experience culminates with a nine-week career class in eighth grade that leads to an individual high school plan and postsecondary outcome and selection of a career cluster.

High school level: The career counseling experience intensifies with career exploration courses and formal programs that provide a career preparation sequence built around career clusters. The high school experience concludes with a formal senior career portfolio and the completion of a defined career program requirement for graduation.

Where We Are Today

Today, students are participating in all aspects of our revised curriculum. As students register for high school during the spring semester of eighth grade, they must select one of the four clusters. Over the last five years a consistent pattern of enrollments in these clusters has developed. The student enrollment for the 1994–1995 school year, as shown below, is typical.

Each cluster contains specialized pathways or sequences of courses (also called completer programs) with high standards for graduation. These prepare students for specific post-high school outcomes, i.e., entry into a technical school, community college or university. All completer programs require three years of mathematics including algebra and geometry, as well as three years of laboratory science and technology education classes. Twenty-two articulated courses with our postsecondary partners, as well as concurrent enrollment options and work-based learning requirements, are part of the completer programs.

All students must complete a program as a requirement for graduation beginning with the class of 1997. Approximately 75 percent of the class of 1995 will be program completers, compared with around 30 percent in the late 1980s.

Sample Students

The descriptions of two completer programs on the next pages show how the pathways can be adapted to individual career goals. The first example is the electronics specialization in the Engineering/Mechanical Technologies cluster. It includes high levels of math and science in an applied, contextual mode, leading to higher level courses. The two-year electronics course at the Technical Center is articulated with Charles County Community College. Students earning a grade of "B" or above receive seven credits from the college as they enter the electronics technology program. The second year of the electronics course includes a work-based learning component. This gives the student an opportunity to work with the local business community in a chosen career field.

1994–1995 Student Enrollment

Career Cluster	Specializations	Number	Percentage
Four-Year College University	Fine Arts, Humanities, Mathematics/Science, Pre-Engineering	1,579	45.6
Engineering Mechanical Technologies	Agriscience, Automotive Body Repair, Automotive Technology, Carpentry, Computer Technology, Diversified Occupations, Drafting, Engineering, Horticulture, Industrial Engineering, Masonry, Plumbing/HVAC, Residential Wiring, Sheetmetal, Welding	741	21.1
Business Management Technologies	Accounting, Data Processing, Diversified Occupations, Graphic Arts/Printing, Marketing, Office Technologies, Paralegal	606	17.3
Health/Human Services Technologies	Allied Health, Child Care, Cosmetology, Culinary Arts, Diversified Occupations, Nursing	560	16.0

Engineering/Mechanical Technologies
Electronics

GRADE 9

COURSE TITLE	CREDIT
English 9 (S/CP)	1
Civics (S/CP)	1
Elements of Algebra or Algebra 1	1
Earth/Space Science (S/CP)	1
Engineering/Mechanical Technologies	1
Fine Arts	1
Physical Education/Health	1
TOTAL	7

GRADE 10

COURSE TITLE	CREDIT
English 10 (S/CP)	1
World History (S/CP)	1
Elements of Geometry or Algebra 1 or Geometry	1
Biology (S/CP)	1
Keyboarding Applications	1
Elective	1
Elective	1
TOTAL	7

GRADE 11

COURSE TITLE	CREDIT
English 11 (S/CP)	1
United States History (S/CP)	1
Algebra 1 or Geometry or Elements of Contemporary Math or Algebra 2	1
Principles of Technology 1	1
*Electronics 1	2
Elective	1
TOTAL	7

GRADE 12

COURSE TITLE	CREDIT
English 12 (S/CP)	1
Contemporary Issues (S/CP)	1
Algebra 2 or Trigonometry Analysis	1
Principles of Technology 2 or Physics 1 or Chemisrty 1 or Chemistry in the Community	1
*Electronics 2	3
TOTAL	7

Recommended High School Electives:

Pre-Engineering Technology
Applied Technology Exploration
Computer Science 1
Computerized Keyboarding
Data Processing 1
Business Electives
Foreign Language
Cooperative Work Experience
STEEP Electives

*Articulated courses with community college

Charles County Community College
Electronics Technology

Course Title			Credit
CDP	1300	Computer Methods for Technology	3
DFT	1350	Drafting for Electronics	2
EGT	1010	Introduction to Engineering Technology	1
EGT	1200	Applied Technical Mathematics	3
*ELT	1015	Basic Electronics	4
*ELT	1030	Semiconductors	3
ELT	2010	Electronic Circuits	4
ELT	2020	Computer Circuits	4
ELT	2030	Communications Circuits	4
ELT	2040	Microprocessors	4
ELT	2060	PC Boards and Soldering	2
ENG	1010	Composition & Rhetoric	3
ENG	2050	Report Writing	3
HTH	1710	Occupational Health & Safety	3
MTH	1080	Intermediate Algebra & Introduction to Trigonometry	4
PHY	1010	Fundamentals of Physics 1 (Lecture & Lab)	4
REQUIRED ELECTIVES:			
Humanities			3
Sociology			3
Speech			3
Elective Choice			6
Associate Degree Total			**66**

Related Community College Programs:

- Certificate: Electronics Technology: Basic
- Certificate: Electronics Technology: Communications
- Certificate: Electronics Technology: Microcomputer

Other Post-Secondary Options:

- Armed Services
- Arundel Institute of Technology
- Catonsville Community College
- Capitol College
- Control Data Institute
- Four-year Engineering Schools
- Frederick Community College
- Howard Community College
- Prince George's Community College
- TESST Electronic School

Post-secondary options and course descriptions are representative examples of programs close to St. Mary's County. Contact your guidance counselor or career center for more detailed information about other opportunities.

Four-Year College/University
Pre-Engineering

GRADE 9

COURSE TITLE	CREDIT
English 9 (CP or Honors)	1
Civics (CP)	1
Algebra 1 or Algebra 2	1
Biology (CP)	1
Introduction to Technologies	1
Foreign Language 1 or 2	1
Physical Education/Health or Fine Arts	1
TOTAL	7

GRADE 10

COURSE TITLE	CREDIT
English 10 (CP)	1
World History (CP)	1
Algebra 2 or Geometry	1
Chemistry 1	1
Foreign Language 2 or 3	1
Physical Education/Health or Fine Arts	1
Pre-Engineering Technology	1
TOTAL	7

GRADE 11

COURSE TITLE	CREDIT
English 11 (CP or AP)	1
U.S. History (CP or AP)	1
Algebra 2 or Geometry or Trigonometry /Analysis	1
Chemistry 2 or Physics 1 or Advanced Biology	1
Foreign Language 3 or 4	1
Math/Science or Technology Program Elective	2
TOTAL	7

GRADE 12

COURSE TITLE	CREDIT
English 12 (CP or AP)	1
Contemporary Issues (CP) or Global Diplomacy (CP) or Government and Politics (AP)	1
Trigonometry/Analysis or Calculus or A.P. Calculus A.B.	1
Chemistry 2 or Physics 1 or 2 or Advanced Biology	1
Math/Science or Technology Program Elective	3
TOTAL	7

Recommended High School Electives:

- Keyboarding Applications
- Computerized Keyboarding
- Statistics and Probability
- Independent Study-Science
- Independent Study-Mathematics
- Science Electives
- Mathematics Electives
- Foreign Language Electives
- Fine Arts Electives
- Research Projects in Technology Education

University of Maryland
College of Engineering

Freshman Year:

All freshman in the College of Engineering are required to complete the following basic curriculum regardless of whether the student plans to proceed through one of the designated baccalaureate degree programs or follow any of the multidisciplinary nondesignated degree curricula that are sponsored by the college.

				Credit
CHEM	103,	113	General Chemistry I,II	8
PHYS	161		General Physics	3
MATH	140,	141	Calculus I,II	8
ENES	101		Introductory Engineering Science	3
ENES	110		Statistics	3
CORE Program Requirements				9
ENGL	101		Introduction to Writing	
Total				34

Entering freshman math placements are determined by performance on math placement exams. Placement in MATH 002 or MATH 115 will delay by a semester eligibility to take certian engineering coures.

Sophomore Year:

During the sopomore year the student selects a sponsoring academic department (Aerospace, Agricultural, Chemical, Civil, Electrical, Fire Protection, Mechanical, or Materials and Nuclear Engineering) and this department assumes the responsibility for the student's academic guidance, counseling, and program planning from that point until the completion of the degree requirements of that department as well as the college.

Related College Programs:

- BA: Engineering (Chemical, Civil, Electrical, Mechanical)
- BA: Applied Science & Technology
- BA: Biological Sciences
- BA: Physics
- BA: Chemistry and Biochemistry
- BA: Math Education
- BA: Science Education

Other Post-Secondary Options:

- Johns Hopkins University
- Loyola College
- Morgan State University
- St. Mary's College of Maryland
- University of Maryland

Contact your guidance counselor or career center for specific information on four-year college programs of your choice.

BEST COPY AVAILABLE

The pre-engineering specialization under the Four-Year College University cluster option concentrates on higher level math and science classes with an engineering/mechanical technology foundation. Students with an interest in the pre-engineering program may cross into the electronics area. Students can explore their interest and follow their strengths to postsecondary training at the level most appropriate. We are discovering that with this flexibility, more students complete both university and occupational requirements.

Work-Based Learning

The formal, work-based learning component of our program is designed to provide seniors an experience in the workplace that matches their career preparation. It takes two forms. First, it may involve a career class in a trade or industry where students spend part of their instructional time at the worksite. For example, students in the second year of the the Allied Health course meet at the Technical Center only one day per week. The other four days they are at job sites in the community with direct supervision and instruction by workplace and school staff. Currently, 19 senior students are enrolled in this course. Other career specializations offer work-based learning experiences based on this model. Each worksite, along with business and school personnel, develops the specifications for the work-based component. About 20 percent of senior students from the three high schools are engaged in this option.

A second work-based learning option for our senior students is available through a formal cooperative work experience program. These are generally paid positions and students may also earn high school credit for their participation. The cooperative work experience program is available only for students employed in an occupation or trade area that is a direct result of their academic and career preparation. About 10 percent of seniors are enrolled in the cooperative work experience program. The cooperative work experience program is also available at the community college, providing an advanced opportunity for students to match their career goals with postsecondary training.

Advice For Revising Curriculum

Document the Problems

Start with both an analysis of students' performance and instructional programming, as well as a better understanding of the workplace where your students will spend most of their adult lives. This will help you to see the gap between traditional "shopping mall" high school programs and the high-tech, high-skills workplace.

Involve the Whole Community

It is important that school systems learn, early in the process what the community sees as the problems. For St. Mary's County, that learning came about as school personnel, business and government leaders and community college staff met to share common concerns. We were careful to bring in a key business community leader, who later became a County Commissioner, along with the school superintendent and community college president as key players whose advice and support were sought from our earliest discussions.

Share Responsibility and Power

When undertaking such major changes, it is important to establish a mechanism to set goals, determine policies, assign responsibilities and coordinate and carry out activities. Originally in the Southern Maryland Education Consortium, operational control was only in the hands of the education partners. The four voting members of the consortium were the president of the community college and the three school superintendents. Over the years we found out that for any school-to-work system to take root and be successful in the community, all parties must be equal partners. This was not an easy process. Both educators and businesspeople had to listen to and learn about each other. And the school partners eventually had to relinquish total control.

The Southern Maryland Career Connections Partnership now has 15 voting members, of which five are educators. Others include the Private Industry Council, the Technology Council, private companies, the local Chamber of Commerce and a union representative from the public schools.

Set High Expectations

At the heart of the problems we identified in 1988 were the low expectations we had for students. Ask yourself the following questions: Do your programs demand high quality student effort? Is it possible to complete your high school program with only a passive academic experience? Does a high school senior schedule consist primarily of study halls, time releases and empty non-academic classes? Is a freshman schedule more demanding than a senior schedule? Do challenging learning opportunities exist for the majority of students, similar to advanced placement courses and programs for college prep students? Are students required to select highly challenging courses of study? Your answers to these questions may indicate that your school is experiencing the same trouble we had.

Our data now shows that a tech prep/school-to-work system, which holds all students to high standards, contributes to an overall improvement in performance. For example, as shown at right, more students take college prep and advanced placement courses throughout their high school years because their career plan requires it.

As you focus on increasing expectations, the way you transfer these expectations to students becomes significant. You will probably need to combine your curriculum restructuring with a career guidance program, as we did, so all students see the relevance of high expectations and the need to meet them.

Organize Career Clusters Gradually

Our advice is to establish your general career cluster areas first, then specialized programs that are the easiest to incorporate, and finally the programs most difficult to include. Build upon the success of your existing programs as you begin to expand. Most school systems already have examples of successful individual programs. Build on your strength.

As you develop career clusters, involve your business community and postsecondary partners in both creating the clusters and selecting the areas of specialization. In St. Mary's County all partners worked together in aligning course sequences, reviewing and revising courses and creating new courses and eliminating old ones.

Course Enrollment in St. Mary's County Schools

Course	1990–91 Class		1994–95 Class	
		%		%
Enrollment 9–12	1,579	100.0	3503	100.0
Mathematics CP/AP*	1857	55.3	2225	63.5
Social Studies CP/AP	1491	44.3	1837	52.4
English CP/AP	1322	39.4	1667	47.6
Science CP/AP	1230	36.6	1506	43.0
Foreign Language	1031	30.7	1466	41.8
Applied Math/Science	50	1.4	387	11.1
Algebra 2 (Grade 9)	—	—	142	—

* CP= college preparation courses
AP= advanced placement courses

Integrate Work-Based Learning Component

In our vision, the natural outcome of a tech prep high school program is a work-based experience. From the beginning, we established partnerships with our business community to help in both the career counseling domain and the applied academic curriculum experience. Job shadowing, career fairs, mentoring programs and worksite visitations are already in place. Now, as our first students enter their later years of high school and the community college, we have an established foundation with our business community that can lead to the workplace. Relationships were strengthened as school staff and business personnel engaged in a dialogue about workplace expectations.

The Fruits of Our Labor

By 1993–94, we began to see data in St. Mary's that reflected our success. Student average daily attendance increased from 90.1 percent in 1990-91 to 93.1 percent in 1994-95, while the dropout rate decreased from 7.2 percent to 3.5 percent. In 1990-91, only 20.3 percent of students had a GPA higher than 3.0; in 1994-95, 30.4 percent did. Students' SAT scores have increased as well. In 1991, the average combined score of seniors was 869; in 1995, it was 939. Enrollments in higher level academic courses were on the rise and student performance on standardized tests documented improved mastery of basic academic content. However, the greatest successes were achieved by our tech prep graduates as more and more of them entered postsecondary schools and workplaces with the skills to compete and succeed in their chosen pathway.

At the Charles County Community College, student focus, preparation and outcomes have improved too. In the late 1980s, 60 percent of St. Mary's students at the community college were enrolled in a general studies program with over 50 percent in remediation classes. By the fall of 1994, 23.4 percent of our students received advanced standing at the community college through articulated programs from our career clusters.

Math remediation was down to 17 percent of incoming students, reading remediation to 19 percent and English remediation to 25 percent, while enrollment had increased from 125 students to 207 in the fall of 1994. These accomplishments occurred at a time of slightly declining enrollments in the high school graduating classes from 760 in 1990 to 688 in 1994.

Enrollment at the St. Mary's County Technical Center has increased from around 200 students in the late 1980s to 650 in the fall of 1994. For those early students that followed our programming, the results were impressive. By fall 1994, of the 151 students in the Class of 1994 who completed a career and technology program, 86 percent were enrolled in a postsecondary institution or had secured a job in their career area, or were doing both. Data for the class of 1995 indicate that that number will increase to 93 percent.

The St. Mary's County High School Program of Studies has emerged as a defining document in setting clear expectations for students. While it is comprehensive in meeting the state minimum graduation credits, it is also learner-specific in defining higher program completer specifications for graduation.

Final Words

As school systems pursue school-to-work initiatives using a tech prep model, we offer the following observations. First, tech prep and school-to-work initiatives are fundamentally addressing the same processes and outcomes. As school systems begin to build programs and relationships, our advice is to concentrate on the fundamental issue of better preparing all students with the necessary skills and opportunities to compete and succeed in the new, emerging workplaces. Be forward thinking in terms of skills required and strategies to connect all students to this new economy. Be bold. Be ambitious. Be risk-takers.

A second observation, and one that is rather unique for educators, is that the schoolhouse must truly be broadened to include the entire community. Schools must be instruments to connect the necessary academic skills to real-world applications. This cannot be done while students are sitting at desks, in nice rows, observing a teacher-centered and teacher-directed activity.

The key element in connecting the school with the workplace will be the effectiveness of new partnerships: between academic and vocational teachers, the school and business, secondary and postsecondary institutions, the school and parents. We, as school-based personnel, need to nurture these partnerships to broaden our understanding of the workplace to better assist our students. Learning is enriched by the vitality and relevance of the workplace. The creativity and energy invested in making that connection will pay enormous dividends in the lives of our students, community and nation.

Stephen Olczak is Director of Career and Technology for St. Mary's County Public Schools in Leonardtown, MD. The St. Mary's County Public Schools have earned national recognition for their outcomes in student program completion and success. As a high school principal at Chopticon High School, Olczak was a leader in the development of the St. Mary's County model. Since 1991, he has served as a speaker and consultant to school districts and business consortiums throughout the United States.

CHAPTER 8

Case Study:
Youth Apprenticeship Model

By Wayne Rowley, Tulsa Chamber of Commerce
and David H. Hensley, Tulsa Technology Center

When the Metropolitan Tulsa Chamber of Commerce brought together local businesses and educational institutions to plan a work-based training program in 1990, we weren't trying to make far-reaching changes in the education system. Our goal was to serve a limited local need: to create workers possessing the technical, academic and social skills needed by local industries. Yet we believe the program we created, Craftsmanship 2000, provides a model for broader educational change.

Today, Craftsmanship 2000 is one of six career cluster partnerships administered by Career Partners, Inc., the Tulsa area's school-to-work partnership. Craftsmanship 2000 is a four-year apprenticeship in metalworking that combines applied academic instruction, technical training and in-plant work experience. Seventy-five students are now involved in the program. Students earn a high school diploma and some college credit in their first two years and an associate's degree in the last two years. Upon completing the program, students begin jobs paying $30,000 a year. We believe Craftsmanship 2000 offers one of the finest technical educations in metalworking available today.

In the Beginning

In 1990, under the leadership of the Tulsa Chamber of Commerce, seven companies and three educational institutions began meeting to create Craftsmanship 2000. The original industrial participants were American Airlines, Baker Oil Tool, T.D. Williamson, Hilti Corporation, Webco, Yuba Heat Transfer and the Public Service Company of Oklahoma. Tulsa Technology Center, Tulsa Junior College and the Tulsa Public Schools were the education partners.

Program Structure

A student enters the Craftsmanship 2000 program as a high school junior, after completing a stringent selection process of tests and interviews at the end of the tenth grade. During the first two years, the apprentice earns a high school diploma and up to 25 credits toward an associate degree. During these years students receive academic instruction at their home high schools and technical training at the Tulsa Technology Center. At the request of the business partners the school day was extended from six to eight hours. In the summer

---

Tulsa County, in northeastern Oklahoma and including the city of Tulsa, *has a population of 500,000. There are about 96,000 students enrolled K-12 in the county. There are 21 high schools in Tulsa County, which together graduate about 7,000 seniors annually.*

In addition to Craftsmanship 2000, our school-to-work partnership oversees school-to-work systems for health and bioscience, American business, international business, transportation and telecommunications. We now have 550 students enrolled in these programs.

between junior and senior years apprentices begin their in-plant training.

In the third and fourth years of the program students attend Tulsa Junior College and are exposed to an increasing amount of "in-plant" work experience. In the fourth year, students finish the requirements for an associate's degree.

Curriculum Structure

The curriculum for each of the four years consists of technical training, academic courses and in-plant training. Technical training includes both shop and theory necessary to develop workplace skills. Academic courses include those that teach skills or knowledge not directly related to metalworking. The line between academic and technical is not well defined, and is drawn in the Craftsmanship curriculum in places which might be disputed.

In-plant training takes place at industrial sites, where the apprentices apply what they have learned in their classes during the year. In-plant training verifies, reinforces or builds on technical training received by the apprentices.

For details about specific courses and hours of instruction for each year of the program, see the Curriculum Profiles in the chapter appendix.

Creating Our Curriculum

The Curriculum Committee

We knew that if we were to design a curriculum to satisfy the machining industry's needs, we would need its input from the beginning, and in periodic reviews. We therefore formed a Curriculum Committee composed of key representatives of each of the participating industries and educational institutions.

Industry representatives included first-line and shop floor supervisors as well as members of middle and upper management. Because of their familiarity with actual shop floor operations, the supervisors were critical in determining the skills the students needed to learn.

The other essential element of this cooperative effort was input from vocational education representatives who had experience both in teaching in the machining field and in curriculum development. These educators advised us on the sequence and structure of the curriculum. Craftsmanship 2000 had two curriculum writers on the committee: a curriculum development specialist from Tulsa Technology Center and the Manager of Manufacturing Training for Hilti Corporation. In addition, vocational instructors and faculty at the junior college provided feedback as they taught the new materials.

The initial committee meetings consisted of roundtable discussions of skills needed by craftspersons in the metalworking trades. No attempts were made to refine the skill statements. The goal was to simply list the skills needed.

Skill requirements were first stated in general terms: "able to operate a lathe," "able to operate a milling machine" and "able to read blueprints." Once the broad areas were defined, the group looked at them and attempted to develop requirements related to each statement. For instance, "able to read blueprints" was divided into the following requirements:

- Able to determine measurements and specifications
- Able to determine the scale of a print
- Able to determine flow direction in a fluid power print

We found the best way of operating was to have the industry representatives describe the technical skills needed and let the curriculum writers take it from there. The writers put the descriptions into a good format with measurable outcomes, and then brought the written objectives back to the committee for approval. It took us about a year to write the technical curriculum for the first two years of the program. For the second two years, the curriculum writers developed the outlines of instruction. The committee then contracted with the Mid-Continent Regional Education Laboratory (MCREL) to flesh these out. The Curriculum

Committee also selected the applied instruction that was integrated into the academic curriculum.

Technical Curriculum Development

Craftsmanship 2000 elected to steer the technical curriculum toward "criterion referenced instruction/evaluation." Using this approach, performers are compared to an absolute standard rather than to other individuals. This approach led us to create learning objectives and requirements for each course, with a minimum acceptable level of performance for each requirement.

Course Objectives

For each course, we established a Course Terminal Objective, defining what a trainee must be able to do to complete the course. The terminal objective sets guidelines for testing the apprentice's competency and efficiency at the end of a course. For example, the Course Terminal Objective for the Year 1 Basic Metalworking Course is "Given a blueprint of an object requiring lay-out, sheet metal bending and cutting, filing, sawing, drilling, reaming and tapping, the apprentice is able to produce the object to specified tolerances and quality."

Once the Course Terminal Objective was defined, we established Learning Requirements for each objective. These Learning Requirements specified what an apprentice must know or be able to do in order to achieve the Course Terminal Objective. Learning Requirements became Terminal Objectives for the individual modules and lessons.

We divided Learning Requirements into two categories: Knowledge Learning Requirements and Skill Learning Requirements. Knowledge Learning Requirements include knowledge and comprehension, and can usually be measured by a written examination. A Knowledge Learning Requirement from the Basic Metalworking Course is "Describe the applied processes in the handworking of metals."

Skill Learning Requirements require the use of motor skills. They may also require the application of knowledge and comprehension. A Skill Learning Requirement from the Basic Metalworking Course is "Produce shop projects that demonstrate the metalworking process of filing."

We divided courses into modules, each of which covered a Learning Requirement or group of related Learning Requirements for that course. An example of a module learning objective for Module 6-1 of the Basic Metalworking Course is "Demonstrate the ability to use hand tools in performing layouts, handsawing, filing, cutting threads, chiseling and hammering."

We developed a Module Outline for each module, which lists the module learning objective and the instructional objectives of all the units in the module (see sample module outline for Year 1 Basic Metalworking Course on the next page.)

Finally, we divided modules into units with specific instructional objectives and lesson assignments. (Some modules have only one unit. In these cases the module and unit are synonymous.) We developed a Plan of Instruction for each unit, listing the instructional methods and tools to be used to meet the learning objectives (see sample Plan of Instruction following the sample module outline.)

Writing Learning Objectives

In writing learning objectives, we looked at objectives as the target of instruction, and knew that we had to create a well-defined target. A well-defined learning objective has three main components, as in this example:

- Conditions of Performance: "Given a blueprint of a machine part requiring basic milling operations…"
- Performance, including action and content: "Perform operator maintenance, set-up and operate the milling machine…"
- Standards of Performance: "…to produce an object to specified tolerances and quality."

The complete learning objective would be written: "Given a blueprint of a machine part requiring basic milling operations, the apprentice is able to perform operator maintenance, set-ups and operation of the milling machine to produce an object to specified tolerances and quality." This

Craftsmanship 2000 Apprenticeship Program
Year 1 Basic Metalworking Course
MODULE OUTLINE 6-1

COURSE # CFT 1600

MODULE # 6-1
1 of 5

UNIT: A. Hand Tools B. Layout

MODULE OBJECTIVE (s):
Demonstrate the ability to use hand tools in performing layouts, hand sawing, filing, cutting threads, chiseling, and hammering.
Perform layout procedures.

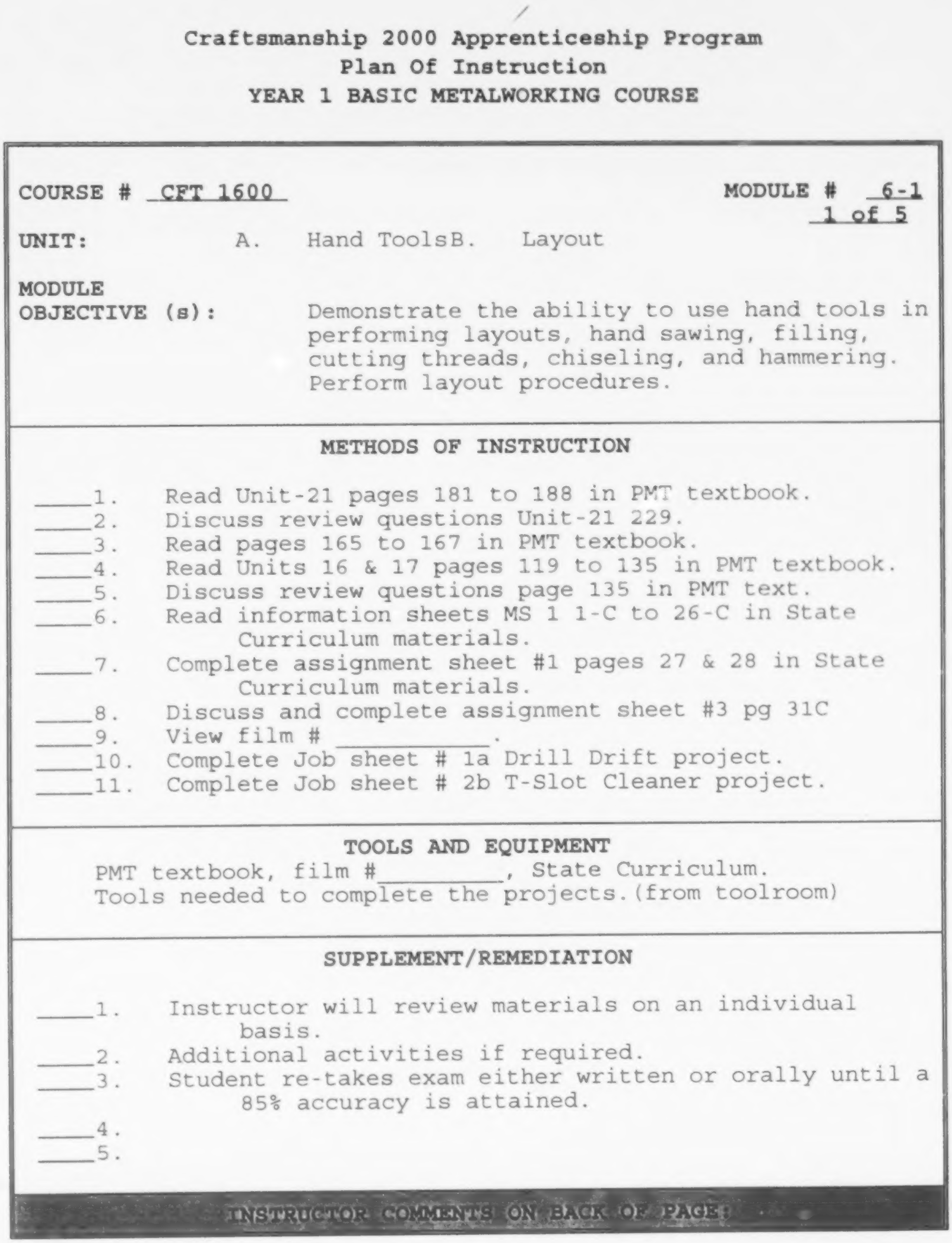
LEARNING REQUIREMENTS: (I.) (II.) (III.)

Unit: A. Hand Tools

Objectives:
1. Identify hand tools used in basic metalworking.
2. Discuss cutting and non-cutting hand tools.
3. State safety rules for hand tools and benchwork.
4. Describe operations hand tools are used for.
5. Demonstrate the ability to safely use hand tools in performing layouts, hand sawing, filing, cutting threads, chiseling, and hammering.
6. Describe reasons for tap failure.
7. Determine tap drill sizes.

Unit: B. Layout

Objectives:
1. Identify tools used in layout.
2. Discuss layout processes and procedures.
3. Select correct layout tools to complete a layout process.
4. Demonstrate the ability to safely perform layout procedures.
5. Layout a project with basic layout tools including scribes, dividers, squares and height gages.



Craftsmanship 2000 Apprenticeship Program
Plan Of Instruction
YEAR 1 BASIC METALWORKING COURSE

COURSE # CFT 1600 **MODULE #** 6-1
1 of 5

UNIT: A. Hand ToolsB. Layout

MODULE OBJECTIVE (s): Demonstrate the ability to use hand tools in performing layouts, hand sawing, filing, cutting threads, chiseling, and hammering. Perform layout procedures.

METHODS OF INSTRUCTION

_____1. Read Unit-21 pages 181 to 188 in PMT textbook.
_____2. Discuss review questions Unit-21 229.
_____3. Read pages 165 to 167 in PMT textbook.
_____4. Read Units 16 & 17 pages 119 to 135 in PMT textbook.
_____5. Discuss review questions page 135 in PMT text.
_____6. Read information sheets MS 1 1-C to 26-C in State Curriculum materials.
_____7. Complete assignment sheet #1 pages 27 & 28 in State Curriculum materials.
_____8. Discuss and complete assignment sheet #3 pg 31C
_____9. View film # __________.
_____10. Complete Job sheet # 1a Drill Drift project.
_____11. Complete Job sheet # 2b T-Slot Cleaner project.

TOOLS AND EQUIPMENT

PMT textbook, film #_________, State Curriculum.
Tools needed to complete the projects.(from toolroom)

SUPPLEMENT/REMEDIATION

_____1. Instructor will review materials on an individual basis.
_____2. Additional activities if required.
_____3. Student re-takes exam either written or orally until a 85% accuracy is attained.
_____4.
_____5.

INSTRUCTOR COMMENTS ON BACK OF PAGE!

is the Course Terminal Objective for the Year 1 Basic Milling Course.

We found consistency in content and structure were essential for the program to work. We needed to document content for all courses in the curriculum, so that the content would be the same regardless of the instructor or instructional institution. To help achieve that consistency, we provided a Glossary of Terms to those working on curriculum materials. We also developed the standardized forms described throughout this chapter.

In-Plant Curriculum Development

Industrial Coordinator

Each company participating in Craftsmanship 2000 selected an Industry Apprenticeship Coordinator (or Industrial Coordinator) to design, implement and administer the apprenticeship program for that company. Craftsmanship 2000 gave the Industrial Coordinator responsibility for curriculum development in two areas (described further in the next section):

- Verifying apprentices' skill levels for the previous year's instruction; and
- Preparing an on-the-job training (OJT) program provides work experience connected with the metalworking trade.

Industrial Coordinators need two main qualifications: knowing the jobs and skills of their industry well, and being able to communicate with young people. We conducted training for the coordinators on interpersonal skills and writing learning objectives.

Writing OJT Learning Objectives

During a series of two- to four-hour training sessions, Industrial Coordinators were given the assignment to write a terminal learning objective using tasks in the plant. At the next session a few days later the results were discussed and another assignment was made. Participants progressed until they were able to write a whole lesson plan.

We wrote terminal objectives for OJT to the same detail as those for the technical courses. Generally, a Terminal Learning Objective for OJT covers one activity but it cannot be too broad (e.g., "The apprentice will be able to perform all the functions of a toolmaker and design and manufacture tooling to specified tolerances"). A more focused learning objective is "Given a gage block, an optical flat and the specifications for flatness, the apprentice is able to use an optical flat to determine whether the gage block is within acceptable wear tolerances."

Learning Requirements, or enabling objectives, for this Terminal Learning Objective might include:

- Be able to describe the principles of interferometry
- Be able to select the appropriate optical flat for measuring flatness of an object
- Given a variety of objects, be able to identify the fringe patterns which indicate a flat, convex and concave surface
- Describe the ways in which flatness is specified.

OJT for this Terminal Learning Objective might be done by a toolmaker or inspector. When planning this OJT, the inspector would cover each learning requirement by explaining the skill to be acquired, demonstrating the skill and letting the apprentice demonstrate the skill with assistance and guidance. Finally, the instructor lets the apprentice perform the activity without assistance, then evaluates the apprentice on each learning objective.

Academic Curriculum Development

Academic courses in Craftsmanship 2000 are taught by public school teachers in the first two years and instructors from Tulsa Junior College during the last two years.

We have chosen to use Applied Mathematics and Applied Physics courses developed by the Center for Occupational Research and Development (CORD) in the first two years of instruction. We have found these applied courses to be most effective for technically oriented stu-

Instructors currently using these materials emphasize that they are not "watered down" courses but simply a different approach to presenting the material.

After deciding on changes to the curriculum, we called together all the academic and vocational high school teachers to explain the new curricula. One of the English teachers was interested in modifying the English curriculum to fit with Craftsmanship 2000. As a result, the state vocational education agency developed modules of applied communications materials that schools may use, if they wish, in their English classes.

How In-Plant Training Works

Skill Level Verification

At the beginning of in-plant training, the apprentice's Industrial Coordinator verifies that the apprentice has attained the Skill Learning Requirements for each vocational course taken the previous year. The Coordinator does this by placing the apprentice in a work situation where he or she can demonstrate those skills.

For example, to verify an apprentice's skill level in the Year 1 Measurement Course, the Industrial Coordinator might place the apprentice under the supervision and direction of an in-process inspector. The apprentice would use a variety of measuring instruments and receives instruction from the inspector in the use of instruments not covered in the vocational training.

The Industrial Coordinator rates the apprentice, using the Learning Requirement Evaluation form to indicate whether or not the apprentice was actually at the skill level indicated by the vocational instructor (see sample Learning Requirement Evaluation form on the next page.) If the skill level indicated by the vocational instructor is lower than the minimum, it is the responsibility of the Industrial Coordinator to provide instruction or work experience to bring the apprentice up to the minimum skill level.

After the apprentice's skill levels have been verified for all Skill Learning Requirements for a course, the Industrial Coordinator determines if the apprentice has met the Course Terminal Objective. This same process is repeated for each Course Terminal Objective and Skill Learning Requirement for the technical courses taken that school year.

On-the-Job Training

Once the apprentices' skill levels have been verified, they enter an on-the-job training program designed to expand their work experience. This OJT follows one or a combination of three paths:

- Adding to the apprentice's knowledge in an area in which the apprentice has been trained
- Introducing the apprentice to training designed to prepare him/her for the next year's curriculum
- Introducing the apprentice to a completely new area of learning

The work experiences selected for the OJT depend on the needs of industry, the aptitude and desires of the apprentice and the availability of a suitable training environment. The Industrial Coordinator might choose to add to an apprentice's skills in measurement (Year 1 Course) by training him or her on the job in the use of sophisticated optical measuring equipment. Or the Coordinator might put the apprentice under the direction of a Cutter/Grinder to introduce the student to grinding operations (Year 2 Course) or provide on-the-job training in a metalworking area unique to that worksite, such as a metallurgy lab.

In any event, the training must be well documented, well structured and well coordinated with the Terminal Learning Objectives and Learning Requirements established for the apprentice's OJT. These are recorded on a Site Specific Learning Requirement Evaluation form provided by Craftsmanship 2000 (see sample on following pages.)

When all learning requirements have been met, the instructor assigns a project that allows the apprentice to demonstrate his or her ability to perform the Terminal Learning Objective. For a project in basic measuring, for example, the apprentice might be assigned to the inspection department to

Craftsmanship 2000 Apprenticeship Program
Learning Requirement Evaluation
YEAR 1 BASIC METALWORKING

Apprentice Name: ______________________

Social Security Number: ______________________

Company Sponsor: ______________________

Knowledge Learning Requirements:	**Knowledge Level A B C D F**	[illegible]
I. Describe the applied processes in the handworking of metals.		
II. Define terminology and describe the use of tools and machines used in the handworking of metals.		
Skill Learning Requirements: (* minimum level)	**Skill Level 4 3 2 1 0**	**OJT/Industry Verification YES/NO**
III. Produce shop projects that demonstrate metalworking processes:		
* Filing *(3)		
* Drilling *(3)		
* Tapping *(3)		
* Sawing *(3)		
* Layout *(3)		
* Reaming *(3)		
* Sheet Metal Bending and Cutting *(3)		

COURSE TERMINAL OBJECTIVE

Given a blueprint of an object requiring lay-out, sheetmetal bending and cutting, filing, sawing, drilling, reaming, and tapping, the apprentice is able to produce the object to specified tolerances and quality.

Reverse of form gives room for grade calculation and comments from instructor and industry representative.

check parts coming out of the plant. If the apprentice demonstrates acceptable performance, he or she would move on to another skill. If the performance is not acceptable, he or she would receive additional instruction at the plant through a formal class and/or additional work experience. The objective is to have all apprentices performing at the minimum level by the end of the summer.

Evaluating Apprentices

The Industrial Coordinator and in-plant instructors must document each apprentice's progress and keep each apprentice informed of that progress. The Industrial Coordinator also evaluates the apprentices on learning objectives set for site-specific training.

The Industrial Coordinator uses two forms in the evaluation process: the Learning Requirement Evaluation form to record verification of vocational skill levels and the Site Specific Learning Requirement form to evaluate apprentices on in-plant training and record the in-plant Terminal Learning Objectives and Learning Requirements. (Both are shown on the following pages.)

For both in-school and on-site work, apprentices are evaluated on a scale of 0 to 4, with minimum levels established for each of the Skill Learning Requirements. For example, in the Year 1 Measurement Course, the apprentice must reach level 3 in the use of standard measuring devices.

Suggestions for a Solid Program

Make Local Needs Your Priority

Craftsmanship 2000 was initiated by Tulsa area employers to meet their needs. We believe its success and that of the other programs of Career Partners, Inc. is due to making local needs our primary goal.

We also discovered that if we designed a program that addressed the community's genuine need for a higher quality workforce—rather than aiming for a program that fit the requirements of a request for proposal—grants and other monies came in.

Maintain High School Loyalty

Originally both the academic and vocational courses were taught at the Tulsa Technology Center. We did this to reduce travel time between the tech center and the apprentices' home high schools. But we found students complained about problems getting to the tech center and about losing their association with their home high school. The program went more smoothly when we sent the academic courses back to the high schools.

Involve First-Line Supervisors

Including first-line and shop floor supervisors, as well as members of middle and upper management, on the Curriculum Committee made our curriculum much more relevant. Because of their familiarity with actual shop floor operations, the supervisors were critical in determining the skills the students needed to learn.

Organize to Include All Partners

Craftsmanship 2000 is governed by an 11-member Board of Directors, made up of representatives from each educational institution and industry partner. The chairman of the board sits on the board of Career Partners, Inc. A smaller Executive Committee carries out the board's policies and directives and coordinates the efforts of standing committees, the Central Apprenticeship Council and committees formed for special tasks.

We have eight standing committees, each made up of representatives from all partners. Our committees and their functions are:

- Curriculum, made up of engineers and technicians from each company sponsor and teachers from each educational institution. This committee completely restructured the metalworking curriculum.
- Education, which deals with course credits, articulation and any requests that must be made to respective school boards.
- Finance/Funding, which seeks grants from public and private sources and plans and executes a long-term budget.
- Training, which provides training for workplace mentors and vocational and academic teachers, mainly through a summer "bootcamp"

Craftsmanship 2000 Apprenticeship Program
SITE SPECIFIC LEARNING REQUIREMENT EVALUATION

Apprentice Name: ____________________

Social Security Number: ____________________

Industry Site: ____________________

LEARNING REQUIREMENTS: (* Minimum Level Required	**Skill Level**				
	4	3	2	1	0
I.					
II.					
III.					
IV.					
V.					
VI.					
VII.					
VIII.					
IX.					
On-Site Terminal Objective Score: **Note:** See Skill Level Definitions and Comment section on back of Page					
ON-SITE TERMINAL OBJECTIVE					

Reverse Side of Site Specific Learning Requirement Evaluation Form

RATING SCALES

4	**Skilled**	Can perform job independently with no additional training required.
3	**Moderately Skilled**	Has performed job independently during training program, limited additional training may be required.
2	**Limited Practice**	Has practiced job during training program, additional training is required to develop the skill.
1	**Exposure Only**	General information provided with no practice time, close supervision and additional training required.
0	**No Exposure**	No information or practice time during training program, complete training required.

EVALUATOR COMMENTS

Evaluator Signature: ______________________________Date: ___________

Apprentice Signature: ______________________________Date: ___________

for workplace representatives and teachers that gives each sector a view of the other's world.

- Public Relations, which prepares materials for promoting Craftsmanship 2000 to the public and works to recruit students.
- Industry/Legal, made up mainly of industry representatives. This committee deals with work-related logistics and legal issues, such as student pay, work hours and child labor and workplace safety laws.
- Central Apprentice Council, composed of company mentors and instructors, teachers and student representatives, which makes day-to-day decisions about the apprenticeship program.
- Administration, which is largely a function of the Executive Committee.

Future Goals

The first group of apprentices who started the Craftsmanship 2000 program are now in their third year of the four-year program, so we do not yet have hard data on program completion and job placement rates. We do know that all students in this group completed high school (although some dropped out of the four-year program to take jobs after high school.) We have found that employers are eager to hire Craftsmanship 2000 participants even if these students did not complete all four years of the program, because they have developed such good work habits.

Career Partners' goal is an enrollment of 2,000 by the 1997-98 school year. We will then conduct a county-wide study of future employment needs and add four more relevant disciplines, making school-to-work transition available to all high school seniors in the county.

The investment of both time and money by the industrial and education participants brings a solid base to our first efforts at maximizing the capabilities of our youth. We believe that letting each organization do what they do best in a joint effort adds to this solid base.

A. Wayne Rowley is Director of Human Resource Development and Assistant Vice President for Economic Development with the Tulsa Chamber of Commerce. He was instrumental in forming Craftsmanship 2000 and served as its executive director. He is chair of the Oklahoma Task Force on Business Recruitment and serves on the boards of several economic development groups, including the Northeast Oklahoma Economic Development Association and the Southern Industrial Development Conference.

David H. Hensley is Industrial Coordinator of Business and Industry Training Services at Tulsa Technology Center, a position in which he helps Tulsa area businesses find solutions to training issues. He was previously Manufacturing Training Manager for Hilti, where he coordinated the pilot program for Craftsmanship 2000.

Craftsmanship 2000 Apprenticeship Program
CURRICULUM PROFILE, YEAR 1

Course Number	TECHNICAL TRAINING COURSES: 1st Year	Theory Hours	Shop Hours	Total Hours
1100	Safety/Hazardous materials	20		20
1200	Blueprint Reading	60		60
1300	Basic Measuring	55		55
1400	Materials	35		35
1500	Intro. Metal-working	20		20
1600	Basic Metal-working	20	100	120
1700	Basic Turning	45	150	195
1800	Basic Milling	45	150	195
Total Technical Coursework 1st Year		300	400	700
1900	In-Plant Training		360	360
Total Hours Technical Training 1st Year				1060

ACADEMIC COURSES 1st YEAR				Hours
	English			175
	History			175
	Physics			175
	Applied Math			175
Total Hours Academic Courses 1st Year				700

Total Technical Coursework 1st Year	700
Total Academic Courses 1st Year	700
Total In-Plant Training 1st Year	360
Miscellaneous Activities	88
TOTAL HOURS 1st YEAR	1848

BEST COPY AVAILABLE

Craftsmanship 2000 Apprenticeship Program
CURRICULUM PROFILE, YEAR 2

Course Number	TECHNICAL TRAINING COURSES: 2nd Year	Theory Hours	Shop Hours	Total Hours
2100	Advanced Turning	30	120	150
2200	Advanced Milling	30	170	200
2300	Drafting	20	60	80
2400	Basic Grinding	50	100	150
2500	Finishing Techniques	20	40	60
2600	Corrosion Protection	40		40
2700	Basic Electrics/ Electronics	40	25	65
2800	Basic Hydraulics/Pneumatics	40	25	65
2900	Maintenance	20	80	100
Total Technical Coursework 2nd Year		290	620	910
2999	In-Plant Training		500	500
Total [illegible] Technical Training 2nd Year				1410

ACADEMIC COURSES 2nd YEAR				Hours
	English			175
	Geometry			175
Total [illegible] Academic Courses 2nd Year				350

Total Technical Coursework 2nd Year	910
Total Academic Courses 2nd Year	350
Total In-Plant Training 2nd Year	500
Miscellaneous Activities	88
TOTAL HOURS 2nd YEAR	1848

Craftsmanship 2000 Apprenticeship Program
CURRICULUM PROFILE, YEAR 3

Course Number	TECHNICAL TRAINING COURSES 3rd Year	Theory Hours	Shop Hours	Total Hours
3100	Work Preparation/Planning	50		50
3200	C.N.C Concepts and Programming	65		65
3300/3400	C.N.C. Turning and Milling	100	400	500
3500	Environmental Awareness	10		10
ncm 2453	Basic Tool and Cutter Grinding	32	32	64
3650	Basic Jig and Fixture Building	48	80	128
eng 1363	Metallurgy	54	10	64
3800	Joining Techniques	32	32	64
Total Technical Coursework 3rd Year		391	554	945
3999	In-Plant Training		599	599
Total Hours Technical Training 3rd Year				1544

ACADEMIC/COLLEGE COURSES 3rd YEAR				Hours
qct 2343	Statistical Process Control			48
pmm 1303	Fundamentals of Materials Mgt.			64
csc 1011	Intro to Microcomputers			16
csc 1551	Word Processing on PC's			48
csc 1531	Spreadsheet Calculations			48
csc 1501	Introduction to DOS			16
eng 1113	Freshman Composition			48
pos 1113	American Federal Government			48
Total Hours Academic/College 3rd Year				336

Total Technical Coursework 3rd Year	945
Total Academic Courses 3rd Year	336
Total In-Plant Training 3rd Year	599
Miscellaneous	88
TOTAL HOURS 3rd YEAR	1968

EST COPY AVAILABLE

Craftsmanship 2000 Apprenticeship Program
CURRICULUM PROFILE, YEAR 4

Course Number	TECHNICAL TRAINING COURSES: 4th Year	Theory Hours	Shop Hours	Total Hours
4100	C.N.C. Advanced Concepts and Programming	64		64
4200	Advanced C.N.C. Turning	50	170	220
4300	Advanced C.N.C. Milling	50	170	220
4400	Advanced Tool and Cutter Grinding	32	32	64
4500	Advanced Jig and Fixture Making		100	100
4600	Die Making	40	60	100
Total Hours Technical Coursework 4th Year		236	532	768
4999	In-Plant Training		920	920
Total Hours Combined Training 4th Year				1688

ACADEMIC/COLLEGE COURSES 4th YEAR				Hours
mgt 1355	Management Essentials			48
spe 1113	Speech Communications			48
mgt 2323	Organizational Behavior			48
eng 2333	Technical/Professional Writing			48
Total Hours Academic/College 4th Year				192

Total Technical Coursework 4th Year	768
Total Academic Courses 4th Year	192
Total In-Plant Training 4th Year	920
Miscellaneous Activities	88
TOTAL HOURS 4th YEAR	1968

EST COPY AVAILABLE

CHAPTER 9

Linking Secondary and Postsecondary Institutions

By Don Pirozzoli and Chuck Guay
Fox Valley Partnership for Quality Technical Education
Appleton, Wisconsin

Articulation is a critical component in building a successful school-to-work system. Educators in high schools, technical colleges and other postsecondary schools need to understand how their programs complement each other. In today's business community, departments are integrated and workers often make a seamless transition from one job to the next. Educational institutions need to provide a similar environment that allows students to make progress from one educational level to the next easily and effectively.

Educators in Fox Valley decided to articulate our curricula for three reasons:

- Local industries needed more skilled entry-level workers
- The community wanted to use its educational resources as effectively and efficiently as possible
- A large percentage of students entering Fox Valley Technical College needed remediation in basic skills before they were ready for associate degree level coursework.

A Seamless Educational Process

Teachers at the Fox Valley Technical College (FVTC) and high schools in the district worked together to coordinate curricula and implement the articulation component of our school-to-work system. To date, FVTC has articulation agreements with the 33 high schools in our district for more than 40 separate high school courses. District high schools also offer a three-credit university English course, which is articulated with the University of Wisconsin at Oshkosh. Additionally, the technical college has articulation agreements with Madison area schools for five courses in aviation.

Articulation between our high schools and FVTC allows juniors and seniors to earn advanced standing credit while in high school. It also brings educators from all levels together to share their ideas about curriculum, instruction and assessment.

Articulation can take a number of different forms, including sharing entry-level competencies, sharing program and course information, sharing curriculum and sharing career guidance and plan-

The Fox Valley Partnership for Quality Technical Education is located in east central Wisconsin. *It includes 27 schools districts, which operate 29 public high schools and four private high schools. The student population of the high schools (Grades 9-12) is approximately 28,000. The largest cities in the district are Appleton and Oshkosh.*

The Fox Valley School-to-Work/Tech Prep Council has been instrumental in providing guidance, direction and support to the Partnership. The Council is made up of academic and vocational teachers from the high schools, FVTC, as well as representatives from the University of Wisconsin Fox Valley Center, UW-Oshkosh, the Chamber of Commerce and the local Cooperative Educational Service Agency. In 1992, the Council conducted a formal strategic planning session and developed a two-year strategic plan, which is updated annually.

ning information. Our consortium is active in all aspects of articulation associated with building successful school-to-work systems.

As a result of our articulation efforts, the percentage of high school graduates immediately entering FVTC who need remedial instruction has dropped from 55–60 percent in the 1990–91 school year when articulation began to 20–25 percent in the 1994-95 school year. Additionally, enrollment of high school graduates from the Fox Valley district in the technical college has increased from 11 percent of the first-year class in 1991 to nearly 20 percent in 1994.

How We Began

In 1990, Wisconsin designated its technical colleges as the fiscal agents for tech prep funds from the 1990 Perkins Act. As a result, the Fox Valley Technical College initiated discussions with local secondary school districts about using the funds to implement a curriculum articulation process.

With the commitment of the FVTC District President and local secondary school superintendents, the technical college invited administrators and teachers from all 33 high schools to attend a dinner meeting. At the meeting, key individuals from FVTC and the Wisconsin Department of Public Instruction introduced the broad goals and plans for tech prep, including articulation.

Shortly thereafter, FVTC hired a Tech Prep Curriculum Specialist to work with secondary and postsecondary staff in the process of curriculum articulation. Each secondary school district (or high school) identified a contact or liaison person to work with the Tech Prep Curriculum Specialist on articulation.

Another important factor was the development of an ad hoc Tech Prep Committee to oversee articulation efforts. This group eventually grew into the School-to-Work/Tech Prep Council, which provides guidance and direction to the partnership and is formally governed by bylaws.

Where to Start

The Tech Prep Curriculum Specialist began by identifying groups of teachers from the high schools and FVTC who were interested and willing to sit down together to discuss and share what each other was doing. Using the registration list from the dinner meeting, the specialist invited teachers to workshops on curriculum articulation. Teachers who had not attended the dinner were also invited.

The initial workshop addressed the concept of articulation. Over the next year, the specialist conducted workshops with vocational and academic teachers from FVTC and the high schools, matching teachers by subject, to help them get to know each other and share information about competencies for entry-level courses at FVTC.

Following these workshops, the subject teachers began meeting together to analyze or develop competencies for the technical college's entry-level courses, revise and update the high school curriculum as needed to meet these competencies and formalize tech prep articulation agreements between the individual high schools and FVTC. Most of these activities were completed within two years.

Business education teachers were the groundbreaking group, having already established working relationships. They were followed by teachers in other vocational/technical areas, such as electronics, drafting, automotive and printing. Teachers in these areas were not only interested in articulation, but were for the most part familiar with their counterparts. In many cases they had long-standing working relationships, which provided an invaluable basis for discussion.

From the vocational areas, articulation activities then moved into the academic area involving communications, math, science and social sciences. These teachers, who had less experience working with each other, seemed to need more nurturing to move in the same direction as the vocational/technical group. The Curriculum Specialist spent a lot of time listening to their reservations and helping them resolve their concerns. These teachers then began working to articulate their curricula with FVTC.

Getting Top-Level Support

To develop support from top school administrators for articulation efforts, the president of FVTC began holding luncheon meetings with four to five secondary school superintendents and school board presidents at a time. The Tech Prep Curriculum Specialist spoke at the meetings, talking about articulation, the progress being made and the kind of support needed from administrators. Such support included providing the following:

- Time for teachers to meet during the regular school day
- Money for teachers to meet with their counterparts, including sub pay, mileage and stipends
- Means and support for curricular changes
- Support for changes in pedagogy (staff development)

After the first two years, the FVTC president maintained interest by holding breakfast meetings for superintendents. The meetings served as update sessions, in which the president explained what was happening regarding articulation and tech prep activities and requested continued support.

Articulation Procedures

One objective of articulation is to enable high school students to earn advanced standing credit at a postsecondary school for courses taken during high school. The process for accomplishing this consists of four general steps: coordinating the curriculum, determining what constitutes the level of mastery, deciding how to measure that mastery, and establishing ongoing procedures for credit transfer and curriculum review.

Coordinating Curriculum

The major challenge we confronted was that many high school graduates were not prepared for entry-level courses at the technical college. We therefore used the competencies for these courses as our starting point.

Our process began with subject area workshops for technical college and high school teachers. The high school teachers brought their curricula, course outlines and materials, and, at the workshop, received the appropriate FVTC entry-level competencies. During the session, the teachers began comparing the high school and technical college curricula. Three results were possible:

- Competencies overlapped,
- A "gap" existed between the competencies learned in the high school and those needed at FVTC, or
- There was a seamless transition between the outcomes learned at the high school and those needed at FVTC.

When the competencies overlapped and institutions agreed on the mastery level, it was agreed that high school students successfully completing the competencies could receive advanced standing credit at FVTC. With this situation, students would not be required to repeat competencies already learned in high school when they matriculated to FVTC. By eliminating duplication, the technical college is able to upgrade their curricula and offer more advanced instruction.

Where gaps existed, teachers worked together to upgrade the high school curriculum so students would be adequately prepared for postsecondary technical education. For example, some high school communications teachers added a component on listening skills to meet FVTC's entry-level competencies.

Where there was already a smooth transition, no immediate curriculum modifications were usually necessary.

Following the subject area workshop, teachers began meeting to modify or revise the curriculum, often with the help of the Tech Prep Curriculum Specialist. Once the curriculum changes were complete, the chair of the appropriate department at FVTC reviewed them. If competencies matched, the teachers then moved on to determine what constituted mastery of the competencies and how to measure them.

Once a definition of mastery was agreed upon, a formal agreement was put in place between the high school and FVTC. Part of the agreement are the Articles of Agreement shown at right. The Tech Prep Agreement for Advanced Standing form, showing the courses that transfer, is in the chapter appendix.

Sample Curriculum Coordination

The Child Care and Development staff at FVTC used a comparative analysis approach to coordinate their curricula with that of high school courses. They developed a form that lists the competencies and objectives of the 18 modules in the Early Childhood I curriculum. High school teachers used this form to identify the high school courses which cover the competencies and objectives and the number of hours of instruction provided. The form was then sent to FVTC for review toward granting advanced standing. The opposite page contains the first page of the form, showing one module.

Measuring Mastery

The teachers in each subject area together determined what constitutes mastery and how to measure it. For articulated courses in communications and science, for example, students must complete the course with a grade of B or better and score at least 80 percent on a mastery test. Mastery tests were jointly developed by the high school and technical college teachers.

For most of the articulated courses in vocational subjects, mastery is measured by completion of the course with a B or above. However, teachers in the drafting/design area took a different approach. Teachers from FVTC and the high schools jointly determined the entry-level competencies expected for the technical college's drafting and design courses and then developed two sets of evaluation criteria. One evaluation rates a high school student's drafting skills and the other a student's cognitive understanding of drafting methods and standards, problem solving ability and use of information. Students are rated on each competency by the high school instructor and must achieve a minimum level (determined by high school and FVTC staff) to receive advanced standing credit. The form on the following page presents the drafting/design evaluation criteria for transferring credit.

Articles of Agreement

I. **Fox Valley Technical College agrees to:**
   A. Award advanced standing credit to qualified high school students for coursework completed at high school.

II. **The high school agrees to:**
   A. Inform all high school students and parents about advanced standing opportunities.
   B. Provide high school credit for successful completion of advanced standing.
   C. Provide facilities and resources for instruction.

Transferring Credit

Students enrolled in articulated classes are registered at the technical college on a computer database for tracking. At the end of the semester, the college sends each teacher of an articulated course a printout of the registered students. The teacher identifies who should receive credit, according to who has achieved the determined level of mastery, and returns the list to the college.

FVTC generates a Tech Prep Transcript for the student, which identifies the courses and credits earned, and sends the transcript to the student's home.

Establishing a Formal Process

As FVTC began to work with the high schools and teachers interested in articulating their curriculum, we realized it would be helpful to establish a formal articulation process which included timelines and assigned responsibilities. We needed a process internally at the college, as well as a process for the high schools to use.

Internal FVTC Processes

The processes and procedures developed internally at FVTC include having:

- A central location that is responsible for handling all requests for articulation with high schools and keeping all records

3/93

COMPARATIVE ANALYSIS OF HIGH SCHOOL CHILD CARE/DEVELOPMENT CURRICULUM AND FVTC EARLY CHILDHOOD 1 CURRICULUM

Purpose: Tech Prep/Transfer Credit

Student's Name: ______________________ High School: ________________

Date: ______________________________ City: ____________________

Instructor: ___________________________ Phone No.: _________________

Module 1 - Introduction to Child Care Services	**Related High School Course**	**Hours of Instruction**
• *Competency*: Examine the child care industry and services it provides.		
• *Instructional Objectives*: 1. Discuss the necessity and purpose of group care for young children.		
2. Describe the types of child care programs and services.		
3. Identify and discuss the DHSS regulations regarding job descriptions and qualifications for the program manager, program director, child care teacher, assistant child care teacher, substitutes, and volunteers.		
4. Describe the delegation of authority relating to group and in-home care.		
5. Identify qualities of a successful child care worker.		
6. Discuss further opportunities for education in the field of child care.		
7. Review in-service and continuing education requirements.		

Competency Evaluation Criteria

Each competency on the task list is to be rated in terms of the criteria listed below. Please rate in the columns to the left of each competency under A, B, or C according to which "Rater" you are.

5 Excellent drafting techniques. Fast, yet maintains accuracy within 1/64 of an inch. Needs little supervision, asks relative questions, uses textbooks and resource materials to obtain information.

4 Drafting techniques above average. Corrects mistakes—learns from those mistakes and relates them to other problems. Needs little supervision, shows potential as drafter. Uses textbooks and references but needs further interpretation of material.

3 Drafting techniques average. Makes some mistakes on three (3) or less consecutive drawings, inconsistent, asks questions before using texts and references, seldom needs more than one explanation. Shows potential as drafter but needs further study and skill development.

2 Consistently makes mistakes, drafting techniques are below those accepted by ndustry. Little concern for correct solution, puts forth minimum effort, needs constant supervision, shows little potential as a drafter.

1 Possesses minimum retention capabilities, consistently asks same questions. Consistently makes same mistakes, does not apply prior learning to new situations. Seeks answers from other students, needs constant supervision, shows little potential as a drafter.

N No opportunity to observe competency.

Cognitive Evaluation Criteria

5 Understands drafting methods, has knowledge of standards, and can apply standard drafting procedures in solving a variety of problems. Utilizes reference materials and needs **limited** prompting by the instructor.

4 Understands drafting methods, has knowledge of standards, and can apply standard drafting procedures in solving a variety of problems. Utilizes reference materials and needs **minimal** guidance by the instructor.

3 Has general understanding and knowledge of drafting procedures and standards. Needs **periodic** assistance in recognizing the application of these standards to drafting problems.

2 Has difficulty solving problems. Has **little** understanding and knowledge of drafting procedures and standards. Needs **considerable** assistance in recognizing the application of these standards to drafting problems.

1 Does not know drafting standards and does not apply them to drawing problems. Requires **continuous** directions from instructor.

N No opportunity to observe competency

Name: ______ Social Security No. ______

School: ______ Date of Graduation: ______

List High School Drafting Courses: ______

- A procedure and timeline for reviewing curriculum and notifying secondary school staff regarding outcomes of review
- A process, procedure and timeline for registering high school juniors and seniors in articulated classes
- A procedure for processing high school students and issuing them a Tech Prep Transcript from FVTC.

The forms and correspondence we use in this process are described below. Copies of them can be found in the chapter appendix.

- The Tech Prep Office is currently the clearinghouse for all curriculum articulation requests from local high schools.
- In addition, all records associated with articulation are kept in this office.
- The Tech Prep Coordinator is responsible for handling communications with FVTC staff and high school staff regarding requests for curriculum articulation.
- A Tech Prep Curriculum Review response form, and letter are in place for use by FVTC staff.
- High school teachers of articulated classes are provided registration forms and information sheets for the students that outline the requirements they must meet to receive advanced standing credit at FVTC. An example of what is included on an information sheet is shown at right.
- Students who successfully meet the requirements to receive Tech Prep Credit are issued a Tech Prep Transcript upon completion of the articulated course.

External Processes

The procedures developed for the high schools include the process for requesting curriculum review for credit, timelines for requests and implementation, and scheduling when and where mastery tests will be given.

Criteria for earning credit in: Circuit Analysis, DC (605-116) 4 credits

1. Student must be registered at both the high school and Fox Valley Technical College;
2. Students are eligible during their junior or senior year in the Solid State Electronics Course in the high school;
3. Student must achieve a grade of 80% or above in the high school course.

FVTC program(s) this course/credits applies to:

Electronic Technology—2 year Associate Degree Program

High School Articulation Procedures

A successful articulation program involves more than coordinating curriculum and transferring credits. At the high school level, it requires careful coordination with existing school procedures, as well as procedures for informing students and their parents about instructional options and for sequencing and planning courses. The activities at Kaukauna High School provide examples of how a secondary school has successfully implemented its articulation program.

Sequencing Courses

One critical element of Kaukauna's successful articulation program is the development of Career Pathways in conjunction with Fox Valley Technical College. Career Pathways are documents that aid in the development of an articulated course sequence that may lead to advanced standing credit at a postsecondary institution. When the pathways were developed, great care was taken to ensure that the course sequence, if followed, would give the students a sound, fundamental curricular foundation on which to build their postsecondary educational program. The articulation agreement also allowed secondary students to earn advanced standing credit at a participating postsecondary institution without having to pay for these credits.

Faculty Coordination

Kaukauna High School has Subject Area Coordinators as well as a School-to-Work committee that consists of representatives from every department in the high school. These committee members review articulation agreements and Career Pathway documents and coordinate other school-to-work initiatives that may effect the articulation process.

These groups have been responsible for moving the collaboration process forward at the high school and getting staff members interested in the articulation process.

Disseminating Information

Guidance counselors play a very important role in the articulation process because they are involved in promoting these opportunities to high school students. Counselors need to develop a process to get this information to students and parents so students can plan their secondary educational program based on current information.

Kaukauna High School uses all its staff members in this process. Each staff member is responsible for advising a group of students. Guidance counselors meet with staff members, explaining any changes in the curriculum or the articulation agreements. Staff members then meet with their student groups to explain any changes, as well as any new articulation agreements developed during the present academic year. Students and their parents schedule a programming session with their respective staff advisor and develop a course plan that includes postsecondary options.

Students are assigned a staff advisor during their ninth-grade year and continue with the same advisor during their four years of high school. This process gives the students, parents and staff an opportunity to work together as they design a comprehensive educational program tailored to the specific needs of each student.

Course Planning and Description Guide

Kaukauna's course planning and description guide is a valuable resource for the students, parents and staff to use during the programming process. The guide includes a section that describes the advanced standing credit options and the courses that qualify for these options.

This section also describes any additional course requirements necessary to satisfy the credit requirements of the cooperating postsecondary institution. The information includes the cooperating postsecondary institution course number and title, as well as the number of advanced standing credits the student will earn upon completion of all course requirements at the secondary level.

Challenges We Faced

The following is a list of challenges we have discovered in the process of developing of an articulation program with postsecondary institutions. Anyone involved in an articulation effort should pay careful attention to these issues.

Faculty Resistance

Faculty resistance is a serious problem often encountered in planning and operating an articulation program. To many instructors, articulation means a great deal of extra work with little or no additional compensatory time or pay. Also, instructors may feel threatened by change and can become locked into attitudes and practices that will hinder the success of the program. However, many of the instructors that offer the most resistance often become the greatest advocates of the program when they are convinced it is effective and that students are better prepared.

The following recommendations may help to alleviate faculty anxieties:

- Hire a program coordinator or consultant to write or revise articulated curricula so that instructors are free of this task.
- Provide release time or extra pay for instructors who are asked to write new curricula or to revise existing curricula. Also, pay travel costs and provide meals

for faculty volunteering to work during evening articulation meetings.

- Schedule articulation meetings at times when students are not present, such as evenings or Saturdays, in order to minimize interruptions and the pressure of teaching schedules.
- Design the articulation schedule to allow gradual implementation of the program so that instructors will have time to adjust to this new concept.
- Administrators may wish to consider including articulation responsibilities as part of an instructor's job description.

Turf Issues

Turf issues are another barrier that must be dealt with to enable all schools involved to have a smooth transition to an articulated curriculum. Secondary instructors teaching elective courses (those not required for graduation) are often concerned about not having enough students enrolling in their courses. Postsecondary instructors teaching remedial courses or general education courses may become concerned when their competencies are taught at the high school level. In both cases, teachers feel that articulation may affect their course offerings and their job status.

Secondary and postsecondary instructors may perceive that they are competing for the same student population. This situation is often described as "if you win, then I lose." Articulation can succeed only if it is seen as a win-win situation for everyone.

To address turf issues consider the following steps:

- Be honest. Clearly communicate all aspects of the articulation agreement to colleagues.
- Emphasize the benefits for all levels involved, including new offerings as a result of upgraded curricula and additional classes necessitated by increased enrollment at the postsecondary school.
- For elective courses, emphasize that articulation can be used as a recruiting and public relations tool. As graduation requirements are increased, students have fewer opportunities for electives. An elective course that offers credit at the technical college becomes more attractive to students interested in that vocational area.

Developing Cross-Faculty Relationships

Faculty and administration from all levels need to get to know each other and gain an appreciation for each other's education and training before collaborative relationships can evolve. The following list contains some ideas that can be used to develop this partnership mentality:

- Equally mix administrators and faculty from all levels on articulation planning or advisory committees.
- Organize visits to the institutions involved in this partnership to familiarize everyone involved with their counterparts' facilities and programs (provide release time for these activities).
- Encourage instructors from similar departments at the participating institutions to meet and get to know each other, through discussing curricula ideas or conducting student tours.
- Appoint or elect co-chairs from all levels to lead the committees.
- Develop meeting agendas jointly.
- Appoint a neutral facilitator to conduct meetings and help manage their progress.
- Rotate meeting sites so every institution has a chance to be host.
- Work on the easy tasks first, so everyone involved can see some progress and begin to develop a sense of cooperation.

Communications

Effective internal communications during the planning and implementation stages are crucial for an articulation program to be accepted by administration and staff. Effective internal communications should be built into the framework of the articulation program. A few ideas for this framework follow:

- Conduct frequent planning meetings with as many administrators and staff as possible, but keep them brief.

- Select a full-time coordinator so people have only one person to contact for problems and questions.
- Develop a formal method to communicate objectives and implementation plans to colleagues.

Successful Strategies

Through the process of trying to strengthen the articulation of knowledge between secondary schools, postsecondary schools and business and industry, we have uncovered (sometimes stumbled upon!) strategies that have helped further develop the articulation component of our school-to-work programs. The following list identifies strategies that had a positive effect on our articulation program:

- Have all parties involved from the very beginning.
- Have a coordinator that is responsible for area-wide planning for meetings and workshops.
- Each school involved should have a primary contact who works with the consortium coordinator to disseminate information within his or her school.
- Establish a consortium council with equitable representation from all involved.
- Ensure the involvement of all special populations as required by federal and/or state laws.
- Promote and facilitate communication between teachers from all educational levels.
- Garner support and involvement from the superintendent and building principal.
- Develop a mechanism to track the progress of students in articulated courses and programs.
- Develop a strategic plan with the council that details goals, objectives, activities, outcomes/products, timelines and responsibilities.
- Provide participating schools an annual progress report based on the strategic plan.

Conclusion

We hope the information we have presented here will provide a framework and ideas with which schools can begin or strengthen their articulation efforts. The articulation component is a critical piece in building seamless educational systems. When teachers at all levels of education know the process for the development of a collaborative school-to-work system, all students will benefit by the efforts of the institutions involved.

Don Pirozzoli is the Tech Prep Coordinator for the Fox Valley Partnership at Fox Valley Technical College in Appleton, Wisconsin. Chuck Guay is the Vocational Coordinator at Kaukauna High School in Kaukauna, Wisconsin.

School Year ____________

Advanced Standing Agreement
Fox Valley Technical College
and
______________________School District

The purpose of this agreement is to provide secondary school students with the opportunity to receive advanced standing at Fox Valley Technical College for selected courses in their school district while also receiving high school credit.

H.S. Course(s)	**FVTC Course(s)**
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________
______________________	______________________

Note: The reverse side allows for signatures of all parties involved.

Fox Valley Technical College

CURRICULUM REVIEW RESPONSE
(Completed by curriculum committee representative)

High School: ______________________________

High School Teacher: ______________________________

High School Course: ______________________________

FVTC Course: ______________________________

Reviewed by: ______________________________

Date: ______________________________

_____ Competencies and objectives of this course appears consistent with those of the ______________________ FVTC course. A student who masters this high school course should be appropriately prepared to pass the advanced standing exam for credit.

_____ The following competencies are not included in this high school course but are included in the comparable FVTC course: ______________________________.

(Don) _____ Schedule a time to meet with secondary person and FVTC staff.

Additional Comments:

When completed please return to the Tech Prep Office (G109) with file and routing slip.

Draft of cover letter to go with response form from FVTC staff

Date XXXXXX

High School Teacher
High School
Address
City, State, Zip

Dear XXXXX:

I am writing regarding your request for advanced standing credit through Tech Prep articulation. Your request was reviewed by ________________________, FVTC's curriculum representative for ________________________. Enclosed you will find the recommendation based on your course and the FVTC course you are interested in offering your students the opportunity to receive advanced standing credit in. Students would earn the credits by taking our advanced standing exam and achieving an 80% or above.

Any student may come to FVTC and challenge any course via an advanced standing exam; however, we are looking to ensure that students enrolled in high school are appropriately prepared for a positive experience.

The decision was made based on the information we received regarding your course and how well it corresponds to the FVTC course. If you have any questions or would like to discuss this with us further, you may contact me at (414) 735-4823, or the curriculum chairperson (name and number attached).

It is also important for all of us to remember that articulation is only one small component of what Tech Prep is all about. Other key elements of Tech Prep in Wisconsin include developing applied and integrated academic and technical curricula and stronger guidance and counseling efforts.

Together and with the same vision we can improve education for all students.

Sincerely,

Don Pirozzoli
Tech Prep Coordinator

cc Curriculum Committee Representative
High School Administrator
Lori Weyers, Dean, General Studies

CHAPTER 10

Using Skill Standards and Skill Certificates

By Bryan Albrecht

State of Wisconsin Office of School to Work

Skill standards—specifications agreed on by business and education that quantify exactly what workers need to know and be able to do to perform a job—are a key but often overlooked element of an effective school-to-work system. Skill standards help ensure that the curriculum used in school-based learning is relevant to what is needed in the work world. They provide a meaningful way for industry to be involved in shaping the education of future workers. Put simply, skill standards help employers in a school-to-work system say what they need, help teachers see what they need to teach and help students understand what they need to know.

I believe the ultimate value of skill standards is to students. Standards give graduating students a portable credential that will be recognized by both their school and by employers throughout their chosen field.

The federal government has made its commitment to skill standards clear. The government has given grants to 22 private sector business-labor-education technical committees to promote the development of national skill standards in specific occupational areas. The federal government is also supporting the validation of work skills and their measurement. The School-to-Work Opportunity Act of 1994 further strengthened the intent to incorporate skill standards into the educational process. School-to-work calls for a rigorous work-based learning component that is benchmarked against state or national industry skill standards.

Many teachers would like to mirror this commitment to skill standards by making them part of their school-to-work efforts—but they aren't sure how to proceed. In this chapter, I will attempt to tell you how.

I speak from many years of experience helping the state of Wisconsin develop skill standards and incorporate them into school-to-work systems. Wisconsin has developed state-approved skill certificates in 15 youth apprenticeship areas and four cooperative education areas. Trained workplace mentors assess student attainment of the competencies. The Wisconsin skill certificates are built upon state and national occupational skill standards. The state skill certificate is a credential that verifies student achievement in workplace competencies and that is validated by state business, industry associations, labor organizations, teachers and employers.

Skill standards provide a resource that can assist employers, students and teachers:

• Standards allow employers to identify the precise set of skills needed for the workplace. Standards give employers the opportunity to assess employees' skills in an unbiased, uniform manner that is recognized and accepted nationally, regionally, and locally. Standards can also help boost quality, innovation and competitiveness because employers have a benchmark to use in upgrading worker skills.

- For students, the standards system provides a way to gain universal recognition for accomplishments. Standards provide an unbiased, recognized way of demonstrating what a student can do for an employer or prospective employer. Standards also help students gain a better understanding of what it will take to be successful in a career, and make better decisions regarding career preparation.
- Standards offer teachers clear, industry-recognized performance competencies that can be the core of effective curriculum development. Since standards are performance-based they can ease articulation and recognition of credit from one institution to another, and can act as a "common language" for educators, parents and the business community.

Developing Skill Standards

Skill standards for school-to-work transition programs must contain three essential elements:

- Rigorous academic and occupational content that supports the occupational cluster being developed
- Industry validated skill competencies that reflect common employability skills (such as those identified in the report by the Secretary's Commission on Achieving Necessary Skills) and industry-specific skills
- An assessment system that credentials both the academic and the technical skill attainment by the student.

Skill Competencies

Skill standards are made up of individual skill competencies, which describe the specific tasks and knowledge one must master to competently perform a skill needed for a particular job. Industry-validated competencies that can be measured and are recognized throughout the industry are the foundation for the skill certificate students who complete your program will eventually receive. The competencies represent the necessary skills one must master to earn this recognized credential.

On the facing page is a sample of one of many skill competencies used to make up the Wisconsin Health Youth Apprenticeship Skill Certificate. As the sample shows, a skill competency generally has four elements. The four elements are: Competency (the overall, general skill); Performance Standards (the specific actions a person must be able to perform to show competence); Learning Objectives (principles and knowledge students must master for this competency); and Skills Criteria (a way of measuring performance on the key actions).

The best way to understand how to create skill standards in your school-to-work program is to examine how each element of a skill competency is developed and how these elements work together.

Your first step is to secure the involvement of key businesses and workers in the field for which you are developing skill competencies, and agree on a process for working with them. Without an effective process that allows people working in the industry to spell out exactly what abilities and knowledge are needed for key jobs, your skill competencies will be meaningless.

Identifying Competencies

All the other elements of a skill competency flow out of the central competency being taught and measured, expressed in a competency statement. The competency statement, then is the element to be developed first.

There are a number of different processes you and your business partners can use together to develop competency statements. The one that is most often used and lends itself well to competency-based curriculum development (and the one we have used in Wisconsin) is the DACUM process.

Using the DACUM Process

DACUM is an acronym for Developing a Curriculum. The philosophy behind DACUM is simply that a job can be described effectively in terms of the tasks successful workers perform

Skill Competency

COMPETENCY	PERFORMANCE STANDARDS
*F3.1 Evaluated client's intake and output	**Criteria–Performance will be satisfactory if learner:** • Identifies what to measure as intake and output liquids. • Accurately measures and records intake and output. • Calculates liquid measurements to cubic centimeters. • Demonstrates measuring intake and output according to the performance checklist. **Condition:** In a facility setting

Learning Objectives

F3.1.1 Identify basic principles of hydration.
F3.1.2 Describe client conditions that warrant keeping a record of intake and output.
F3.1.3 Explain those liquids that are measurable when recording intake and output.
F3.1.4 Use the metric system of measurement for measuring and recording intake and output.
F3.1.5 Explain the importance of accuracy when measuring and recording fluids.
F3.1.6 Define key terms related to intake and output.
F3.1.7 Follow facility policy/procedure for measuring intake and output.

Skills Criteria	3	2	1	NA	Comments
The student will: 1. Measure intake and output accurately.					
2. Record intake and output in proper space on intake and output record.					
3. Include all liquids taken in or put out.					
4. Total values for 8-hour shift.					
5. Enter 8-hour totals on proper 24-hour record if required to do so.					
6. Maintain confidentiality/privacy.					
7. Employ interpersonal communications.					
8. Maintain medical asepsis/universal precautions.					
9. Promote safety/security.					

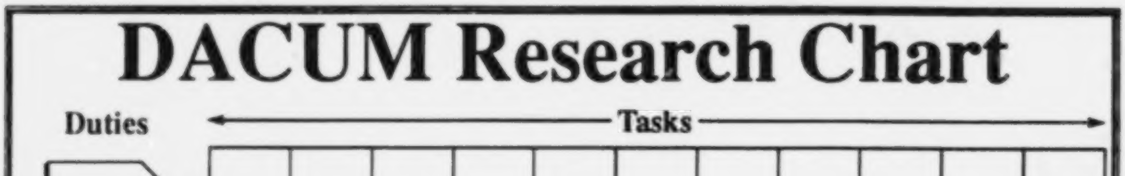
and that expert workers are more able than anyone else to describe their occupation.

To begin the DACUM process, you should identify workers within the field who have reputations for being the best at their jobs. Your business and industry partners can help you recruit such workers directly from their business and industry. These workers become a "panel of experts" who work with a DACUM facilitator to describe their occupation in the language of that occupation.

You will want to have someone in your partnership trained as a DACUM facilitator if you decide to use this process. DACUM training is vital to the integrity of the process. The DACUM facilitator needs to be able to manage group dynamics, get to the heart of a complicated discussion and clarify panelists' comments. (Information on the DACUM process and facilitator training can be obtained by writing to the Center on Education and Training for Employment, Ohio State University, 1900 Kenny Road, Columbus OH 43210—or check with the curriculum specialists at your local community college.)

The panel works under the guidance of the facilitator for one or two days to develop the DACUM chart (the figure below reflects the structure of the chart). The chart is a graphic profile of the skills required in the occupation, broken down into duties and tasks, as shown in the graphic below. A duty is a category of related tasks. A task is a specific unit of work and a step is a smaller unit of work.

Small group brainstorming techniques are used to obtain the collective expertise and consensus of the committee. The expert workers identify components of the job (duties, tasks and steps), reaching consensus on each component. As consensus is achieved on each duty, the duty is written on a large card. Duty cards are placed on the wall in a long column. As consensus is reached on each task that must be accomplished within a duty, a "task card" is written, describing that task. Each task card is placed in the row adjacent to the duty



card under which that task would fall.

The collection of task statements represents the specific tasks required to complete the duty.

The columns and rows up on the wall create the DACUM chart, as shown in the graphic. (Steps are usually written on the back side of each task card.) Later, the chart is transferred to paper using the same row and column format.

The stages of a typical two-day DACUM process are described in the box at right.

Problems to Watch For

While the DACUM process is valuable as a guide to the industry perspective, it may not filter the information out into true duties and tasks that will set your curriculum standards. Some things to watch for that may distort the quality of the process are:

- Unsuitable composition of expert worker committees (lack of workers truly expert in that occupation)
- Lack of definitions or criteria for job tasks or task statements
- Lack of high-quality duty and task statements
- Failure to separate out worker behaviors, general knowledge and skills, and tool and equipment statements.

Writing Competency Statements

Once the DACUM process is completed, each individual task can be written into a competency statement.

A competency statement is a concise description of a general task a worker must be able to perform to be effective in a job. The task reflected in a competency statement is not as broad as a duty on the DACUM chart, or as narrow as the steps that make up tasks. In general, competency statements can be taken from the tasks on the DACUM chart.

In developing our skill competencies, we gave each competency statement a code that indicates what duty and task on the DACUM chart it reflects. For example, the competency statement on the sample competency has an identification code of F3.1. This means that this competency is

Stages of DACUM Workshop

Day One

1. Orientation and Introductions. The DACUM facilitator conducts an orientation to the overall workshop and process, and panel members introduce themselves briefly.

2. Defining Occupational Title and Position. The panel begins to select the most important name for their occupation or profession and defines their occupation in a single sentence. Definitions address the what, how and why of an occupation.

3. Outlining General Areas of Competence. In the first of many brainstorming sessions, the panel describes the general responsibilities or duties that may determine the cluster of tasks within the occupation. These general categories are printed on large cards and placed on the wall.

4. Identifying Specific Tasks. The panel analyzes each general category of the occupation, brainstorming to bring out the individual tasks within each area. These tasks are listed from left to right on smaller cards. (A task is defined as "a unit of work that has a beginning and ending point.") This stage, requiring the most time, is considered to be the heart of the process.

Day Two

5. Refining and Sequencing Individual Tasks. The panel refines the chart by rearranging the order of tasks and examining the wording. Panel members discuss their ideas in specific detail and with great energy during this stage.

6. Sequencing General Categories. The panel now proposes different arrangements of the general duties in the occupation. Panel members often propose a great variety of possible organizations. A consensus determines the final sequence of the chart.

7. Revising Job Descriptions. The panel reexamines the original definition developed in step two and may reword it. Often rewording revises the emphasis of the occupational activities or the terms in the title.

8. Coming to Closure. The workshop concludes with an expression of appreciation from the institution. The panel is informed about the follow-up activities and proposed uses of the chart. If time remains, panel members are asked to identify entry-level tasks.

from row F of the duty column on the DACUM chart, and it is task number 3.1 for that duty.

A listing of competencies is often referred to as a competency profile. Competency profile charts are often used to record competency attainment and to help assess student needs.

Once all the tasks on your DACUM chart are put into competency statements, you are ready to establish the criteria by which you will measure student performance, establish learning objectives for the related curriculum and establish how skills will be evaluated.

Performance Standards

Your next task will be to develop performance standards. Performance standards are the criteria students must meet when performing a particular competency. Performance standards are generally the steps one would go through to complete the competency or task.

Notice that in the sample skill competency, the student will be demonstrating satisfactory performance in four different aspects of the single competency "evaluated client's intake and output."

In addition to outlining the performance standards, the skill competency indicates information on the type of setting or location where these performance standards must be met. In the sample competency, the performance standards must be demonstrated within a health care facility.

Learning Objectives

The third element for a skill standard is the learning objectives. Learning objectives describe principles or background knowledge students need to know to perform the tasks outlined in the performance standard. On the sample skill competency, for example, the student will need to understand the principles of hydration, understand health care conditions that warrant recording a patient's intake and output, have a good working knowledge of the metric system, and so on, as outlined in the learning objectives. Like the competencies, learning objectives are identified by a lettering and numbering system that shows what duty and task, from the DACUM chart, they reflect.

Learning objectives are generally taught in the school-based component of school-to-work. These objectives should be an integral part of the curriculum of those classes linked to work-based learning. This school-based curriculum plays a vital role in supporting the skill development of the student. Having learning objectives spelled out as part of the skill competency ensures that the academic content students are learning supports the concepts required for jobs in their chosen career area. This helps students to see the importance of academic skills and helps teachers see how academic content is used in the workplace.

Often skill certificates are associated with the mastery of only the technical skills. As you design skill certificates, it is important to make the academic content a fundamental part of the program.

Skills Criteria

The skills criteria establish a way of measuring student performance on specific tasks necessary to meet the performance standard. Notice that on our sample skill competency we use a rating scale of 3, 2, 1 or NA. This ranking represents the level at which the skills are mastered and demonstrated. The description of the skills criteria ranking is as follows:

3 = Proficient; can complete the task without supervision

2 = Intermediate; demonstrated the task but needs additional supervision.

1 = Introduced, observed the task, but has not demonstrated the skills.

NA = The student has not been provided the opportunity to demonstrate this task.

We have not set up required criteria as to the number of times one must complete a task to be rated proficient. Rather, once a task can be performed consistently without supervision and to the quality acceptable to the employers, we award a proficiency rating of 3. The level of performance is determined jointly by the workplace mentor and the supervising teacher. The workplace mentor can consult with the supervising teacher to ensure that the student has also mastered the academic content related to the task.

A student can improve her or his ratings throughout the training experience. If a student is awarded a level of 1 during the first semester of work, that student may have their competency reevaluated and raised to a 2 or 3 during the second semester.

The list of skills criteria may include items that are not necessarily in the performance standard, but are necessary to meet the needs of the overall duty. These may include basic employability skills, such as the basic skills outlined in the report of the Secretary's Commission on Achieving Necessary Skills (SCANS) report. In our sample competency, the skills of maintaining confidentiality and employing interpersonal communications fall in this category.

In a program like the Wisconsin Youth Apprenticeship Program, the student would have anywhere from 90 to 150 skill competencies to complete within the two-year sequence of school-based and work-based experiences. The proficiency rating plays a critical role in the overall scoring for each student. Students must maintain a rating of 2 (intermediate) or 3 (proficient) in at least 80 percent of the total competencies and get at least a 3, 2 or 1 in 90 percent of the competencies. That leaves 10 percent of flexibility for student workers who just cannot find a way to master a specific competency. This overall score earns a student a state certificate of occupational proficiency and articulated credit in the postsecondary system. (We have an articulation agreement with local postsecondary institutions that ensures students succeeding in our youth apprenticeship program a minimum of 9-12 postsecondary credits.)

Implementing a Certificate Program

The process of developing and implementing a state skill certificate program requires collaboration among employers, educators, state education and labor agencies and community-based organizations.

The state of Wisconsin has developed two distinct skill certificate programs—one for Youth Apprenticeship and one for Cooperative Education. Both these state skill certificate programs are issued by state agencies and use the DACUM process of identifying state skill competencies. The leadership for such programs has been from business and industry associations in partnership with education. The credential for students completing one of the 18 approved programs is a certificate of occupational proficiency.

Our two-year youth apprenticeship program combines classroom instruction (four semesters of state curriculum) with work-based learning (minimum of 960 hours) to provide students with solid academic skills and competencies in a chosen occupational cluster. Our cooperative education skill certificate programs are one year in length and combine two semesters of classroom instruction with work-based learning (a minimum of 480 hours).

Both programs extend the walls of the classroom to include the business or industry willing to train the young person for a career in a particular field.

Steps for Developing Skill Certificates

"Where do we begin?" is the first question most people ask when they decide to develop a skill certificate program in their community. From my experience, I have found the following 10 steps to be essential to the implementation to all skill certificate programs.

Step One: Assess the Local Climate. Local planners need to assess the local climate to determine how receptive the community will be to a skill certificate program. A "community" may include one city, a school district or a multiple city/school district consortium that is working to establish the program. The following questions may be helpful in assessing your community's receptiveness:

- **Are local educational institutions interested in strengthening school-to-work transition programs?** Many schools and communities are now developing strategic plans that include school-to-work transition programs and initiatives in their communities. Local schools will be more receptive to the skill standards concept if it is part of a broader vision to prepare students for careers and further education.

• **Are there students and parents likely to be interested in a work-based learning approach that leads primarily to jobs and/or technical college?** A large number of graduating students entering four-year universities may reflect the high value parents place on a college education for their children. A significant number of students entering technical college or the labor force may indicate a willingness by parents and students to pursue careers that do not require a college degree. Skill certificate programs can be successfully operated in both environments, but marketing strategies to recruit students need to address the difference in values and expectations for students. Curricula and related courses will require more development in schools that are heavily oriented toward "college prep" and have not yet invested resources in tech prep or other applied academics.

• **Are local employers likely to be interested in supporting skill certificate programs?** Most businesses are interested in hiring qualified entry-level workers. To determine whether a skill standards project would help your local businesses, ask them the following questions: Do they have problems recruiting qualified workers for key jobs? Do they experience high and costly employee turnover? Have they adopted new technology or work processes that require higher levels of reading, writing and math skills than in the past? Do they hire workers with less than a college degree? If the answer to any of these questions is yes, skill standards may address the needs of your local businesses.

It is especially crucial to know before proceeding if you have the support of your business community. Develop a plan for informing all local employers about your goal to develop skill standards and coordinate training for such standards between business and education. A brochure or fact sheet specifically designed for employers may be helpful. It should describe the employer's responsibilities as well as benefits to employers for participating in the program.

Employers can be reached using several methods—indirectly, through local media, individually through phone calls or personal visits and/or as a group through an informational meeting. You should use all these methods. Using local business leaders to recruit other businesses is a very effective method to solicit business participation.

Determine who in your partnership will be responsible for contacting employers and who will develop informational materials to distribute to local businesses.

Step Two: Organize a Steering Committee. Developing skill certificate programs will require a long-term commitment from employers, schools, students and others. Local leaders with patience, persistence and vision will be needed to move the project through the various stages of development and implementation. Identify the "champions" in your community: key leaders in the local schools, the technical college and the business community who have the leadership, energy and perseverance to get things done and the vision to imagine how the programs can benefit the community. Invite these people to be part of a small steering committee to help explore, develop and promote the idea.

Step Three: Select Occupational Areas. Factors to consider when selecting occupational areas include:

• **Are there enough businesses in this occupational field willing to hire your students to make the program cost effective for the schools?** A minimum class size of 10 to 12 students is usually the most cost effective. Programs can be operated with fewer students, but the instructional costs may be too high for local schools.

• **Can businesses provide the full range of instruction required to achieve the competencies reflected in the skill certificate?** Some businesses specialize in particular areas and cannot provide the full range of instruction to a student at their site. You may need several businesses which specialize in different areas to agree to rotate students as they progress through the program.

• Is there a local business leader who is willing to champion this program and draw in other employers? Your best partner for recruiting local businesses to participate in the skills certificate program is a local business leader who is enthusiastic about and supportive of the program. Another good partner is a representative of the state-wide association for the industry.

It is advisable to select only one or two areas for the first year of the program so that the steering committee's time can be devoted to building a successful program before expanding into other areas.

Step Four: Hold a Community Information Meeting. Organize an informational meeting for interested businesses and schools to inform them of your plans and gain their support. You may want to invite all secondary schools and technical colleges and local businesses in the area. Or you may want to target certain schools or employers within a given area—or certain types of businesses within the occupation your steering committee has selected (e.g., printers, hospitals, financial institutions). This meeting can be a simple informational meeting to begin gaining support for skill certificates in your community.

Step Five: Choose a Local Coordinator. One of the keys to success in implementing a skill certificate program is the effectiveness of the local coordinator. This is the person who provides the "glue" to hold everything together, who facilitates the partnerships between business and education, education and parents and students and business. Select this person carefully!

You may be able to arrange to use some of the work time of a person holding an existing position in your education community—such as your school-to-work transition coordinator or Chamber of Commerce education director—for work coordinating a skill standards program. Or you may want to create a new position.

Step Six: Secure Approval for the Program. For students to receive a state or national skills certificate, your program must be approved by a state or national sponsoring agency. This process will be unique for each state. Contact your state Department of Labor and Education for assistance. If you are developing a local skill certificate, seek approval from your school administrator and school board.

Step Seven: Recruit and Select Students. To recruit students for the program, you need to develop strategies to promote the program to both students and parents in your community. A brochure or fact sheet should be developed that clearly explains what the skill standards program is, how it works, who it will benefit, eligibility criteria, what occupations are available for training and who to contact for more information. (See Chapter 29 for more strategies for recruiting students into school-to-work programs in general.)

Step Eight: Orient Teachers and Workplace Mentors. Orienting instructors and workplace mentors is critical to the success of the program. It is important that everyone involved in teaching or working with the students understands the purpose of the program, their role in implementing the program, the underlying philosophy behind skill standards, and the local program design.

All workplace mentors should be given an explanation and review of the skill standards and competencies required for all programs and the role of mentors and the instructor. Training and orientation for teachers and school staff should include an explanation and thorough review of the skill standards and competencies and of the school's role in teaching competencies.

Step Nine: Establish Links Between Mentors and Teachers. It is very important that the instructor and the workplace mentors work together to deliver training for the skill competencies. They need to determine which competencies will be taught in the classroom and which will be taught at the workplace. They need to be very familiar with their curriculum, the performance standards and the specific competencies that will be learned. They also need to determine the process to be used to determine the student's grade on the school transcript.

Using Skill Standards in Assessment

Assessment and testing is fundamental to any conception of a skill standards program. Standards in other industrialized countries include assessment as a necessary step to certify the skills and knowledge of individuals. In addition, the information assessment provides is necessary to determine the effectiveness of the training programs as well as the accuracy and usefulness of the standards program itself. Finally, assessment is a necessary ingredient when you are attempting to match the specific skills of workers with the employer needs within the labor market.

Assessment is also an area that is open to much criticism. Understanding the legal issues associated with assessment is crucial to making effective, legally supportable policy choices.

Tests and Adverse Impact

One of the most important laws affecting assessment is the Civil Rights Act of 1964, as amended. A key concept of the Act is "adverse impact." Adverse impact refers to neutral appearing selection criteria that have the effect of discriminating against a protected class. The U.S. Supreme Court has held that if a test has adverse impact, the test must be shown to be valid to be used. A series of guidelines have emerged from case law:

- An employer's test must be based on a thorough job analysis
- The link between the job analysis and the test content must be established
- The content validity of the test must include results from the job analysis that indicate the relative importance of the identified work behaviors
- The test must provide for adequate agreement among raters of the applicants
- Ratings should be based on performance dimensions, not personality traits.

Even with these and other guidelines, it is important to note that the courts have not agreed on a uniform set of standards for which assessments are legal and which are not. But the evidence indicates that the use of a test whose validity can be established through some form of job analysis is the fairest form of assessment.

Other Legal Issues

A second important legal concept related to assessment is found within the National Labor Relations Act. This act states that labor unions must be given an equal voice in the creation of standards and assessment systems.

Third, the Americans with Disabilities Act of 1990 prohibits any standards process that involves assessment and certification from discriminating on the basis of disability. The test itself must not assess the disability, but rather the skills and knowledge appropriate to the job.

A last area of legislation with implications for national skill standards and certification systems is tied to licensing. If the federal government takes the lead in establishing national standards and credentials that limit peoples' entry into or advancement within certain kinds of occupations, then the entire process may be subject to Civil Rights Act claims as well as claims under Equal Protection and Due Process under the 5th and 14th Amendments. If the scheme is voluntary, due process does not apply.

Words of Caution

There are several words of caution I would offer from my experience developing and implementing skill standards in a school-to-work system.

Start Slow and Small

An early surge of enthusiasm may cause everyone to jump on the bandwagon. Because these programs require considerable time and effort to develop, it is important to begin small and allow ample time for planning. Successful early efforts will allow you to expand more easily in the future.

Stress Benefits to All

Skill certificates are based on a partnership of employers, educators and other community leaders. The most effective partnerships recognize that each leader, manager and staff person needs to feel that he or she personally, or his or her organization, will benefit directly from involvement in this program. Ownership can be developed by early involvement in planning, shared decision-making power and fulfillment of organizational needs. When there is disagreement, the needs of students should be the criteria for making decisions.

Don't Fear Deep Change

Resist the urge to fit this new concept into an old box. This is a program that truly requires institutional change to be successful. The skill competencies are developed by employers and these industry standards must drive school-based instruction if the work skills of graduates are to be improved. This concept may require major changes in curriculum at the high school level, the technical college level and industry training programs.

Conclusion

The spread of school-to-work systems has raised the level of involvement of employers in the education system. It has also raised employers' expectations of the students that system graduates. The implementation of school-to-work programs that include industry-recognized skill standards will help ensure that our graduating high school students do not disappoint business and industry's expectations.

Considering the federal government's commitment to skill standards, and the process for creating standards that has been set in motion, skill standards will probably continue to play a major role in education reform. Standards will be an integral part of the systemic change our schools must make to help students be equipped for a global economy.

Bryan Albrecht is Acting Director of the Office of School-to-Work for the Wisconsin Department of Public Instruction, where he was previously the Technology Education Consultant. He has also served as Corporate Director of Wisconsin Vocational Industrial Clubs of America and as the Vocational Education Coordinator of the Kewaunee School District in Wisconsin. He is coauthor of The Role of Teachers in the School-to-Work Transition.

Writing Your Local Plan

By Eileen Haag
San Diego School-to-Work Partnership
San Diego, California

In 1994, the San Diego School-to-Work Partnership was awarded a local partnership grant of almost $1 million by the U.S. Departments of Education and Labor to begin operating a school-to-work opportunities initiative. This chapter describes how we developed our local plan and wrote a winning grant application.

Creating a Partnership

The Partnership traces its first steps to a task force convened in 1992 by San Diego City Schools. This task force included a broad cross-section of educators, businesspeople, parents and government officials. The task force was charged with examining the school-to-work transition programs of San Diego City Schools, redefining their scope and purposes and recommending changes in form and function to improve their effectiveness for students. The Board of Education also requested that a three- to five-year plan be developed to implement the recommended changes in district policies and practices. The task force published its report in June 1993.

The task force's vision statement included in the report emphasized that the school-to-work system must encompass the following elements: business, industry and community involvement; teaching strategies; relevant instruction; career awareness, exploration, and planning; universal skills; restructuring schools, and program accountability. The task force report also identified goals and action plans to accomplish each section of its vision statement.

Our next step was to establish a workable compact to carry out the action plans suggested by the task force report. In August 1993, San Diego City Schools Superintendent Dr. Bertha Pendleton and the Chief Executive Officer of the San Diego Consortium and Private Industry Council, Aurelia Koby, invited Kay Davis, Executive Director of the Greater San Diego Chamber of Commerce's Business Roundtable for Education to an information exchange. These three helped generate a list of roles and responsibilities to include in the compact. In December other critical partners joined the process.

By April 1994, a dozen organizations had signed a memorandum of agreement to pursue a joint mission statement: "We will work together in partnership year-round to ensure that the academic success of students includes being prepared for the world of work, higher level education and for life-long learning." To accomplish this mission, the partners agreed to develop a specific action plan to implement the task force report's vision statement and to achieve the goals outlined.

The partner organizations in the memorandum of agreement included San Diego City Schools, The San Diego Consortium and Private Industry Council, San Diego Chamber of Commerce Business Roundtable for Education, San Diego Community College District, ACCESS (a private non-profit, community-based organization), The University of California at San Diego, San Diego County Office of Education, San Diego Apprenticeship & Training Coordinators Association, Inc., San Diego County Department of Social Services, California Employment Development Department, San Diego & Imperial Counties Labor Council and the Parent Teacher Association.

All partner organizations that signed the memorandum of agreement embraced specific roles and responsibilities. This was the foundation that led to designing and writing our local plan. The announcement of possible funding through passage of the School-to-Work Opportunities Act set a deadline for writing the plan, although our determination to proceed was not conditioned on the successful acquisition of this particular funding.

Assigning Writing Responsibilities

The Partnership decided to hire a professional writer to write the plan and to assign people who were knowledgeable about the specific issues to provide information and review and edit what was written. We recommend this approach. Writing a polished, well-crafted plan is time consuming. Educators and businesspeople with full-time jobs do not have the time to do this. Also team writing usually doesn't work when it gets down to the actual writing. Ultimately, one person must put the words on paper, knowing they will be altered beyond recognition.

I was the writer asked to write the plan. After working for more than 20 years as a publisher and editor of community newspapers, I had been contracted by the San Diego Consortium & Private Industry Council to coordinate a "Workforce Excellence Forum." This event brought together hundreds of San Diego area leaders from business, education and government, and established the commitment to prepare all students in San Diego area high schools for the world of work by the time they graduated. At its conclusion, I was a verifiable convert to the religion of school-to-work transitions and a reformed education system.

I was then asked to assist in the writing of a school-to-work transition plan, which would be submitted to the U.S. Departments of Education and Labor when and if they issued a Request for Proposals for Implementation Grants under the School-to-Work Opportunities Act. I accepted the assignment suspecting that I would learn a lot, work with people who were committed to a good cause and that my labors would result in something that would help make a difference in the quality of life for our entire community.

Little did I know how understated my expectations were. I was to spend the next six months listening to what often seemed a discordant cacophony. Those who spoke shared a vision but they did not agree about how to best and most expeditiously attain the goals that would make that vision a reality. By the end of the process, that disharmony came together into a lively symphony that orchestrated the efforts of many distinct organizations.

Soon after I accepted the assignment, I was introduced to Brené Patrick of the Consortium and Rob Atterbury of San Diego City Schools, the content specialists assigned to work on the plan. Brené was the expert on the work-based component and Rob was the expert on the school-based component. We would spend many hours together hammering out sections of our plan.

The role of the writer, as I saw it, was to fit others' suggestions into an overall context. This meant outlining a plan, including possible funding sources, that could be communicated to people in a coherent manner that would inspire support and enthusiasm for what the partnership hoped to achieve.

Preparing the Grant Application

The Partnership had created a vision statement and established goals for reforming the city schools. Now it had to decide on a plan of work for how those goals would be accomplished. In addition, the Request for Proposals (RFP) for the School-to-Work Opportunities initiative specified what had to be included in the grant application. It became the responsibility of the three of us preparing the plan to 1) formulate the specific components of the action plan, 2) gather the information required in the RFP and 3) organize everything into a sensible framework.

Initially, Partnership organizations assigned representatives to help with the process. These individuals formed planning focus groups led by Brené Patrick and Rob Atterbury. We went through the RFP with them to point out what needed to be included and met with them to get their positions. Once the writing began, we sent them draft sections to approve.

Structuring the Application

In developing a plan, the RFP requires that eight questions be answered. Each answer becomes a section of your plan:

- What do you want to do?
- What is the need your plan will meet?
- What will be the result of what you plan to do?
- How will you implement your plan?
- How will various entities work together to achieve your goals?
- Who will benefit from what you plan to do?
- How qualified are you to do what you say you will do?
- How much will it cost?

The RFP listed a great deal of specific information that had to be included in the application. It also presented the criteria the review committee would use in evaluating the applications. Brené, Rob and I collaborated on three different structures for the plan before we were satisfied. Then we called the federal School-to-Work office to make sure we had interpreted the RFP correctly and that the method we had finally selected would be easy for the review committee to evaluate.

Deciding What We Wanted To Do

Each participant in the planning focus groups was asked to identify programs already in place and consistent with the school-to-work transition goals. This helped us to see where we were and where we wanted to be. A gap analysis identified what was needed to get there and work began in earnest in trying to identify the best ways to fill the gaps.

It is important to recognize that these discussions can continue indefinitely. At an early point, the writer must try to capture what is being said and, with input from the program experts, meld the messages into major components of an action plan. At this stage, it may be necessary to ask forgiveness for misstating positions or providing an incomplete plan. You must do what is necessary to move the process forward and realize that criticism is constructive and helpful in improving the next draft of the plan. Praise for the lyricism of the writer's prose is not the object; getting the substance of contributors' suggestions is.

Ultimately, San Diego's action plan contained the following major components:

- Create an employer involvement clearinghouse that will use an electronic database of work-based learning opportunities.
- Expand career awareness and exploration activities.
- Increase the availability of career cluster program majors and more completely articulate them with postsecondary educational opportunities.
- Train teachers, counselors and administrators.
- Involve business, industry and labor.
- Implement a marketing plan.
- Provide effective oversight.
- Develop a skills certification process.

Describing the Needs

This section of a local plan explains the need for the particular school-to-work system being proposed for your community. Basically, it describes local labor market projections and the academic and vocational preparation needed to meet those projections. It also contains much of the demographic information asked for in the RFP regarding population and poverty rates.

The statistical information you need may not be readily available from the participants in the planning process. They will, however, be important resources to direct you to other information that might be incorporated into this portion of the plan. Some other resources might include:

- Previous grant applications written for programs in your community or area of impact;
- Government records that contain relevant statistical information;
- Area Chambers of Commerce;
- Economic development agencies;
- Strategic plans of companies and agencies;
- Personal interviews with knowledgeable individuals who head organizations and are charged with implementing company or agency plans; and
- State, federal and local agencies and office holders who can impart their perspective of the needs and opportunities in your community or area of impact.

Based on the data and projections we collected, we identified three characteristics of San Diego that created a need for a better school-to-work system:

The impact on the current population, labor force and educational institutions of a pronounced shift in the local economy — away from defense spending and toward civilian enterprises. This had caused the loss of many high-wage and high-skill jobs.

The opportunities and challenges facing a community located on the Pacific Rim and on the border with Mexico.

The expected growth in the area, particularly through immigration, which would create special needs within an education system that previously served a more homogenous student population.

Expected Results

This section describes the results of carrying out the plan. Clearly defined objectives set the stage for short- and long-range goals with an accompanying timeline including the person or agency responsible for meeting the goal. In the San Diego project, our objectives included:

- The integration of work-based and school-based learning,
- The integration of occupational and academic learning with the input of business and industry advisory boards, and
- Secondary and postsecondary linkages.

Working from the objectives, Brené, Rob and I developed specific, measurable goals that were reviewed and modified by members of the planning focus groups. Because people were committing to achieving specific results it was important to keep the focus on "can you do this?" as organization representatives reviewed the goals. Once the focus groups had agreed to the measurable goals, we incorporated the goals into the implementation section of the plan.

Implementing Our Plan

Each of the objectives we listed in our plan was supported with specific and detailed action plans compiled from the roles and responsibilities outlined in the memorandum of agreement among the Partnership. Each action plan included a paragraph stating our expected outcome and the evaluation method that would be used to measure our success.

Our work-based action plans included the following objectives:

- Establish business and industry advisory boards
- Develop internships;
- Identify job shadowing opportunities
- Coordinate workplace mentoring
- Award skill certificates
- Provide encouragement after high school
- Identify effective incentives for employers to participate in school-to-work activities such as field trips, internships, workplace mentoring, summer work experience and year-round part-time work experience.

Our school-based action plans included the following objectives:

- Expand career awareness, exploration and assessment
- Provide training for teachers and staff to design curriculum revisions

- Expand the number of guidance counselors and the frequency of guidance counseling contacts with participating students and provide labor market information for the guidance counselors to use in helping students choose career paths at an early age
- Adopt curriculum revision strategies to maximize efforts that have already begun and expand on their experience
- Provide students transportation to and registration at an annual Non-Traditional Career Fair

Our action plans to connect school- and work-based learning included the following objectives:

- Establish an employer involvement clearinghouse
- Create an electronic employer database
- Generate employer contacts
- Provide liaison among employers, schools, teachers, parents, students, and community partners
- Provide technical assistance and services to employers and all personnel involved in system implementation
- Help students who have completed the program find an appropriate job, continue their education or enter into an additional training program
- Provide assistance to schools and employers in integrating academic and vocational learning
- Collect and analyze information on post-program outcomes
- Use employer input in creating curriculum
- Solicit active support from parents, business and the community in program design with joint planning among all parties
- Conduct a marketing outreach to all students and their parents in a manner that most appropriately meets their needs and the needs of their communities
- Provide effective oversight of the San Diego school-to-work system

Working Together

For the RFP, the makeup and commitment of the local partnership was a very important section. In addition to who the members were, we described what the various partners were already doing in this area, what sources of funding they were using and what they would commit to the partnership effort. In the San Diego plan, we identified programs being funded through Carl D. Perkins Vocational and Applied Technology Act, Job Training Partnership Act, general education funds and private sector support.

Because local school-to-work plans had to be compatible with state-wide reform efforts, the San Diego Partnership plan also addressed its substantive linkages with the planning efforts ongoing by the State of California.

Who Will Benefit?

In writing your school-to-work plan, it is imperative to show that all students will benefit from the system. Toward that end, the San Diego plan carefully outlined how it would ensure participation of all students, including low-achieving students, students with disabilities, young women, former students who have dropped out of school and college-bound students.

Qualifications to Carry Out Plan

The strength of this part of a local plan is dependent on the strength of the individual organizations in the partnership and on the commitment of the chief executive officers or other top officials of each organization. For the San Diego plan, top officials of partnership organizations agreed to meet at least quarterly (in practice it has been monthly) to provide vision and policy guidance. Each partner also designated a key staff person who was given responsibility to meet on a steering committee at least monthly to assure follow-through. Members of the steering committee chaired action teams that recruited participation from everyone in the plan.

The action teams we described in the plan included Community Awareness, Staff Training Instructional Methods, Integration of Occupational and Academic Skills Certificates, Work-Based

Experiences, Postsecondary Connections and Evaluation.

Cost

This part of the planning can be the stickiest as it most touches on the vested interest of each participating organization. Each organization desires maximum levels of funding. To avoid last minute squabbling, a process to determine specific projects and their budgets, as well as requirements for commitments of personnel and other matching fund contributions, should be established before actual dollar amounts are determined. In the San Diego plan, it was helpful that the various partners were committed to carrying out the projects outlined whether or not additional funding was received.

Early preparation of subcontracts between the fiscal agent and the participants in the grant funding will further define precise roles and responsibilities. Such preparation will also accelerate the program of work once additional funding is approved.

Exhibits

Since the narrative of our plan was limited to 40 pages, we attached extensive exhibits to give more information about things mentioned in the body of the application. Among our exhibits were:

- The complete task force report;
- A map of San Diego County;
- Details about the information system to be used for the employers' electronic clearinghouse;
- The five-year strategic plan for the San Diego Consortium (the local education agency);
- "Schools at a Glance," providing information about the 20 participating schools;
- Information about how students follow various career paths in their schooling; and
- A preliminary marketing plan.

Suggested Steps to Follow

From our experience, we suggest the following seven steps for writing your local plan and organizing your grant application.

1 Be sure you address everything that is asked for in the RFP and organize the plan so it is easy for the review committee to find the important parts as they evaluate it. (The important parts are explained in the RFP section on selection criteria.)

Read the request for proposal; read it again; and, then, read it again. It's rather like looking through a kaleidoscope. Every time you read it, it appears to present itself in a different way. After you've read it three times, ask at least two other people to read it three times each. Then call the phone number listed on the application form and ask for help.

2 Collect information and categorize it. Use whatever system suits your fancy. If you're the organized type you might choose file folders, but this system quickly evolves to file boxes. If you're more comfortable with creative chaos, you might just start stacking materials in piles, but this system eventually means no one will be able to get into your office and you'll begin to worry that you'll never be able to get out. Try to find a happy medium—perhaps materials you've already referenced in one area and materials you've yet to review in another. The danger in this method is that you really can't find anything.

3 Begin writing the plan. You have to do it sometime. Allow procrastination time in your schedule, but once you start writing, allow yourself large blocks of uninterrupted time. Try to write each section within a concentrated block of time so you don't have to keep losing and regaining your focus on that section.

4 Get feedback as you go along. Make others read what you've written and get their input. This is not as easy as it might sound because inevitably those you need to read what you've written are busy with a thousand and one other things that are part of their jobs. Nagging will probably be necessary. When you send a section for review indicate in your cover memo that silence will be taken as approval.

5 Make suggested changes in the document and be sure to resolve all inconsistencies. Don't forget to make sure that all of the information requested in the RFP is included and try to keep things as simple as possible with a formatting style that helps the reader move easily along from one section to another.

6 When the deadline is almost upon you, admit that you've done the best you could in the allowable time. You'll have to create a table of contents and paginate the entire document, including the justification of need, the goals and objectives, the program of work, the evaluation methods and the budget. In addition, you will have to organize the supporting exhibits and collate it all in a presentation folder or notebook. Inquire when the latest possible mail pick-up time is and make your last change at least a half hour before.

7 Celebrate completion of the project, get a good night's sleep and await the decision. If your stars are in the proper place in the heavens, your grant application will be approved, and you can start planning how you are going to write for a renewal in the next round of funding.

The process of writing a local plan will probably be slightly different for each local partnership. The most important basis for a good plan is to have a strong partnership and a solid idea of what you can realistically accomplish. Once you have these things, take the advice presented here and get started!

Eileen Haag is a communications consultant in San Diego who specializes in resource development and issues analysis, primarily in the fields of education and telecommunications. Formerly a newspaper editor and publisher, she continues to write newspaper columns and host public affairs television programs.

Implementation Grant

Following is the executive summary of the implementation grant we wrote for the San Diego School-to-Work Partnership.

The San Diego School-to-Career Partnership is proud to announce the award of an Implementation Grant from the U.S. Departments of Education and Labor for $946,405. This grant will fund activities that will integrate, accelerate and expand the School-to-Career programs already introduced in schools throughout San Diego County. In particular, funds will be used to develop work-based learning opportunities for participating students and maximize the work-related skills students acquire both in school and employment settings.

The grant application was submitted on behalf of the San Diego Partnership, which combines employers, labor, educators, city, county, and state agencies in a comprehensive effort to implement the School-to-Career system. These organizations have an impressive record of combining resources in projects such as: New Beginnings, a highly successful local initiative that effectively integrates the services of a number of public agencies at a single community site; the San Diego Youth Opportunities Unlimited (YOU) initiative, a comprehensive demonstration program serving high-risk youth in the San Diego's Logan Heights area; and the San Diego Career Centers, a network of one-stop centers providing single access points to all education, job-training and support services county-wide.

This grant will help to fully implement all Schools-to-Career components at 21 high schools, and to a limited degree their feeder schools, in the first year. Through the School-to-Career grant, the Partnership will create an infrastructure of connecting activities which will support the "pilot schools." Once fully operational, this infrastructure will be ready for expansion to other schools county-wide.

The San Diego School-to-Career System will be implemented with the intent of serving all students who attend the 21 pilot schools. These schools, including alternative education locations, represent a diverse student population. San Diego is determined to prove that students are more successful when educated through a School-to-Career system.

The 21 schools from around the county, are identified in the attachment. It is intended that within five years, all county schools will implement the School-to-Career system utilizing the structure developed through this proposal. In particular, funds from this grant will be used to:

Create an employer involvement "clearing house," which will utilize an electronic database of work-based learning opportunities. This will facilitate an efficient employer outreach program, avoiding repetitious contact of individual employers and labor groups by schools and teachers seeking placement locations for students enrolled in School-to-Career programs. The database will allow the allocation of all employer resources in an organized way. The response of local employers has been phenomenal to initial discussions of School-to-Career. Hundreds of employers have agreed to support the development of the system. They recognize that, like educators, they have a vested interest in actively participating. The lead organizations in this implementation effort will be the Consortium, the Roundtable, along with the San Diego Community College District and the school districts. The Roundtable will take the lead to create the database, and the Consortium will manage employer involvement activities.

Although the focus of the component will be the 21 pilot schools, it is anticipated that the employer database will be available to other school districts before the end of the first year.

- **Expand career awareness and exploration activities** including job shadowing, guest speaking and field trips starting with elementary and middle schools, culminating in career major selection by the end of 10th grade.

- **Increase the availability of career cluster program majors** and more completely articulate them with postsecondary educational opportunities such as tech prep. This will be the responsibility of the school districts working together with all post-secondary partners.

• Train teachers, counselors and administrators with skills to make the educational experience relevant to the world of work. Also, the training will assist academic teachers to integrate academic and vocational curriculum with workplace readiness skills. In addition, the training will increase the ability of the school staff necessary to help students make career pathway selections.

• Involve business, industry and labor in the implementation of the School-to-Career system. Employers will be provided with training and support as they accommodate students in workplaces. This comprehensive effort will include chief executive officers, human resources and other middle managers, as well as front-line workers. Training for employers will be the responsibility of the employer involvement representatives.

• Implement a marketing plan, which will be developed by the Partnership to target administrators, teachers, students, parents, employers, labor groups and the community at large. The marketing plan will promote the need for a School-to-Career system for all students. The Consortium will take the lead in developing this component. Although the 21 sites will be the focus in the first year, the marketing plan will set the stage for county-wide expansion.

• Provide effective oversight of the development of the Schools-to-Career system and provide ongoing communication with the State of California and the federal departments of Labor and Education so that local successes may be shared and replicated, while failures can be documented and avoided in other efforts throughout the state and nation.

• Development of a skills certification process: Based on the existing framework, a skills certificate process will be developed by the school districts in cooperation with the County Office of Education, under the direction of the Business/Industry Advisory boards.

Objectives

1. The basis of the San Diego School-to-Career Opportunities system will be:
   - The integration of work-based learning is to be achieved by developing and offering courses necessary for a diploma and to meet industry standards for a skills certificate of accomplishment at high school graduation. The Business/ Industry Advisory boards will be established for each occupational cluster. These boards will provide input into the course contents as well as postsecondary education and/or registered apprenticeship courses needed for obtaining employment in the desired career field.
   - The integration of occupational and academic learning will be accomplished with the input of Business/Industry Advisory Boards. These boards will provide certification of the course sequences as well as the most appropriate instructional methods to ensure the development of appropriate skills, abilities and knowledge needed in the occupational areas.
   - Secondary and postsecondary education will be linked through the identification of postsecondary programs or apprenticeship prerequisites necessary for entrance into the youth's career field. The system will include the tech prep model, a grades 10–14 program which puts 10th-grade students into articulated curricula through which they earn high school diplomas and a community college degrees.
2. The San Diego School-to-Career Opportunities Initiative will result in students attaining:
   - A high school diploma or its equivalent
   - A certificate or diploma recognizing successful completion of one or two years of postsecondary education, if appropriate
   - A skill certificate

SECTION III

Keys to School-Based Learning

Chapter 12: Developing a Career Awareness Program
Chapter 13: Integrating Academic and Vocational Teaching—Overview
Chapter 14: Case Study: Integrating Academic and Vocational Teaching
Chapter 15: Case Study: Integrating Academic and Vocational Teaching
Chapter 16: Developing Career Majors
Chapter 17: Using School-Site Mentors
Chapter 18: Integrating Reforms Into Your Current System
Chapter 19: Staff Development in School-to-Work Reforms
Chapter 20: Equity in School-to-Work: Serving All Students
Chapter 21: A Model For Serving At-Risk Students

CHAPTER 12

Developing a Career Awareness Program

By Linda Auman
Springdale High School
Springdale, Arkansas

"A child's vision of the future is the most powerful and universal predictor of success...vision leads to success."
—Joel Barker

Ability is not a consistent predictor of success; we all know of students with presumably low ability who have soared to the top and students with tremendous ability who have sunk to the bottom. Neither is socioeconomic status always a predictor of success, as we all know of students from poverty who have become successful as well as students from great wealth who have failed. Vision, a child's perception of his or her own future, is the most powerful predictor of success. If we believe this, it becomes our charge to help each student develop a positive vision of the future.

Prior to the development of career action planning in our school district, students chose classes based on which friends would be in the class, which lunch period was available and which teacher was perceived as "easy." Course selections were not guided by a program of study and transcripts looked like a smorgasbord of course offerings with no connection to what the student might be planning to do after high school. Stories handed down by upper-class students formed the advisement system and classmates gave direction for schedule planning. The goal was graduation (accumulation of enough credits to graduate) rather than preparation for life after high school.

We developed the Career Action Planning (CAP) program to ensure that students would see the connection between school and work and be prepared for that transition.

The CAP Program

Initial Planning

Springdale High School considers its mission to provide challenging opportunities for every student in a positive environment. To achieve this end, we are involved in programs for tech prep and youth apprenticeship. School personnel keep in touch with the needs of business and industry through many committees and programs that encourage joint involvement.

Springdale High School initiated the Career Action Planning program in 1992 after joining the Southern Regional Education Board's *High Schools That Work* consortium. In addition, the Springdale Public Schools wanted to respond to requests from the business community to better prepare our students to enter the workforce in Northwest Arkansas, whether directly from high school or after postsecondary experiences.

***Springdale High School in Springdale, Arkansas, is a public secondary school** serving more than 1,600 diverse students in Grades 10–12. It is one of the largest high schools in the state and is located in Northwest Arkansas, the fastest growing part of the state. Agriculture, poultry, the transportation industry and tourism are among the major sources of employment in Northwest Arkansas.*

The 18 school districts within a 40-mile radius in Northwest Arkansas have collaborated in many aspects of creating a school-to-work system.

Our goal was to create a system that involved students, parents, teachers, business and industry and postsecondary institutions in the development of career goals and planning. We felt that students and parents needed annual, one-on-one meetings with counselors to get the information needed to make course selection and career decisions. Such meetings, called CAP (Career Action Planning) conferences, are the heart of our career development program. However, we knew our four high school counselors could not possibly provide conferences for all the students and their parents.

Training Teacher Advisors

To achieve our goal, we created a structure to train and support all junior and high school teachers to serve as career advisors. The teachers/ career advisors help junior and senior high students assemble their career portfolios and provide career planning assistance during the school year. These planning and information activities culminate with the annual CAP conference. Each spring, advisors meet with students and their parents to discuss career options, select goals and develop an education plan to meet those goals.

We believe that the Career Action Planning process helps each student improve his or her chances for long-term employment. CAP is a comprehensive strategy to provide students with self-awareness, awareness of their options and decision-making and planning skills. The box at right lists what we believe a comprehensive plan like CAP can accomplish within a school.

The program also includes economic education and career awareness from pre-kindergarten through twelfth grade with a heavy emphasis on postsecondary education and lifelong learning. Special arrangements are made to accommodate non-English speaking students, those in special education, as well as any other student who might need special consideration in setting up a program of study. Interpreters are available for non-English speaking families during conferences, letters are translated into the family's native language, and teachers of special needs students team with advisors to help develop appropriate planning.

What A Career Action Plan Can Accomplish

- Organize career development into a manageable time frame.
- Ensure consistent curriculum exposure for all students.
- Provide opportunity for shared responsibility for career and educational development by parents, students, teachers and counselors.
- Enable students to gain skills and background necessary to make good educational and career decisions.
- Increase students' choices and access to jobs and postsecondary education through adequate knowledge.
- Encourage students to set career/educational goals as well as a plan to meet these goals.
- Improve relations between school, parents, business, industry and other community members.

The process involves extensive collaboration with faculty, administration, counselors, business and industry, parents and postsecondary institutions. We also collaborate with the 17 other school districts in northwest Arkansas, most of which have adopted the CAP model.

How CAP Works

The best way to see how CAP works in practice is to describe what happens in the program at each grade level.

Elementary Grades

The groundwork for the CAP is laid in the elementary grades. Economic education is integrated throughout the curriculum. Students undertake projects or operate a business to learn about profit and loss, how many workers it takes to make things go, and what jobs result. Elementary school counselors work with teachers to organize field trips to employers, schedule speakers and conduct an annual career awareness week.

Eighth Grade

Students begin receiving intensive career guidance in Grade 8 when they take a one-semester career orientation course. The course is taught by a certified teacher with vocational credentials as well as specific training for this course. During the course, the students' learning styles, interests and aptitudes are assessed. Students record this information in their career portfolios.

The career orientation course also includes self-awareness and career awareness activities based on the 15 job clusters used in the Differential Aptitude Test published by Psychological Corporation, which all our students take (see resources). The course teaches employability skills and begins the process of developing a Career Action Plan for each student. Hands-on activities, resource speakers, field trips and occupational research help to provide the foundation for the initial CAP conference. At this CAP conference, students and parents choose a general "career cluster" to follow based on the results of interest inventories and aptitude tests.

The CAP conferences are held during the last week in March. The student, his or her parents and the teacher who has been trained to be that student's career advisor participate. The conference consists of the following components:

- Explanation of the career portfolio and CAP process
- Information about graduation requirements;
- Information about the Arkansas Challenge Scholarship under which the state provides each qualifying student $1,000 a year for postsecondary education
- Learning styles, interest inventory and aptitude assessment results
- SAT-8 results (standardized achievement test)
- Third nine-week grade report
- Explanation of the Arkansas Two-Pathway System, the high school core curricula for college prep and tech prep
- Selection of a career cluster by the student
- Development of six-year plan and selection of courses for ninth grade.

Ninth Grade

In the ninth grade, students participate in guidance activities that stress teamwork, use of leisure time and conflict resolution. The Economic Education program gives students the opportunity for job shadowing and focuses on understanding the relationship between work and learning.

It is important that ninth-grade students understand all the options open to them and that they not close the "window of opportunity" by poor course selection. The CAP structure includes the following steps to inform ninth-grade students and their career advisors of course options and programs of study available at the high school:

- High school teachers schedule meetings with junior high teachers and career advisors to familiarize them with programs of study and required and elective courses.
- High school counselors come to junior high classrooms to explain programs of study, elective programs and the connection of these courses to the work world.
- High school teachers, mainly from elective programs, schedule an assembly at each of the two junior high schools to give information and recruit students. Teachers often bring current students to talk about the advantages of each program.

As a result of this process, enrollments in vocational programs are at an all-time high.

In ninth grade, students meet as a group with their advisor several times. During these 30-minute CAP advisor periods they receive information to help them make decisions. They also make arrangements for their spring CAP conference. Prior to the CAP conferences, high school teachers, counselors and administrators host a "Parent Night" for ninth-grade students and their parents, to provide information and answer questions. Letters of invitation are mailed out and attendance is high. Printed materials and brochures are available at the meeting.

The ninth-grade CAP conference includes:

- Review of career portfolio and CAP process, graduation requirements, Arkansas Challenge Scholarship, Credit Check Sheets listing course credits and grades and the Arkansas Two-Pathway System
- Review of career cluster selection; notations are made of changes and updates
- Selection of courses for tenth grade based on chosen career cluster and pathway (tech prep or college prep)
- Review and update of six-year plan.

Tenth Grade

When students come to the high school campus in the tenth grade, Peer Helpers, under the direction of the high school counselors, help smooth each student's transition from junior high to high school. Students are assigned to a teacher/advisor who meets with them during a 30-minute CAP advisor period each month for the sole purpose of career review and planning. During the tenth-grade advisor periods, students begin choosing a "major" and developing a program of study, which includes selecting courses for the next two years and for postsecondary education. Students remain with the same advisor throughout high school.

Advisors use curriculum units (video and worksheets) prepared by district counselors to provide accurate career planning information. These materials were developed jointly by school counselors from all 18 school districts in northwest Arkansas. Counselors determined what kinds of information students at each grade level need to know about career choices and preparation, then created materials providing that information—such as what apprenticeship opportunities exist in the area, what various programs of study in the schools involved and how students can figure their own GPA and keep track of their academic credits. The videos provide information common to all the districts, and the handouts give details specific to each district.

These materials take the pressure off the advisor to plan activities for the CAP periods as well as ensure that all students get the same information. The students keep the accompanying worksheets in their career portfolios in the advisor's room. The added advantage to this approach is that the advisor is a "learner" along with the student.

Counselors administer the "Choices" computerized interest inventory (by Careerware) to all tenth graders through their English classes (a 26-unit writing lab is used). The counselors use the inventory's follow-up occupation and education information with the students to explore careers that relate to their individual interests and aptitudes. The information is also used in the annual CAP conference to help in formalizing a program of study and sequence of classes.

Students are given opportunities and encouraged to participate in apprenticeships and other school-to-work programs designed to better prepare them for success. All students are encouraged to choose and follow either a college prep or a tech prep program of study. Great care has been taken to put the information in a format easily understood by advisors, students and parents.

Components of the tenth-grade CAP conference include:

- Review of career portfolio and CAP process, graduation requirements, Arkansas Challenge Scholarship, Credit Check Sheets listing course credits and grades and the Arkansas Two-Pathway System
- Information about apprenticeships
- Selection of a career major
- Selection of courses for eleventh grade based on career major
- Review and update of six-year plan.

Eleventh Grade

Eleventh-grade students continue to meet monthly with their CAP advisor, where they are given career planning information through the prepared career curriculum units. As they receive information, they update their career portfolios. The ASSET, a college placement test developed by American College Testing Service and used by community colleges and technical institutes, is administered to all juniors in the spring. Those who show deficiencies in English, math or reading, which would require remedial courses in college, are encouraged to take an acceleration course during the senior year. Students may then retake the ASSET and use the improved score for placement. The Armed Services Vocational Aptitude Battery (ASVAB) is available for students who wish to participate and/or are considering going into the military.

Counselors work with local business leaders to develop a school-to-work conference called "Designing Your Future." Students attend a general session, then choose "break-out" sessions led by teams of teachers and business partners. The breakout sessions include Successful Interviewing, Keeping Your Job: Workplace Savvy, and Career Opportunities in Northwest Arkansas. The Workplace Readiness classes (a required course for tech prep students) assist in the planning and facilitation of the conference.

During the annual CAP conference, students and parents work with the advisor to plan the senior year and the transition from school directly to work or further education. Representatives from area postsecondary schools, the military and employers are available in the lobby area for consultation with parents and students. Specific components of the eleventh-grade CAP conference are:

- Review of career portfolio, graduation requirements, Arkansas Challenge Scholarship, Credit Check Sheets listing course credits and grades
- Time line and checklist for senior-year activities including deadlines for scholarship and community college applications, ordering of graduation announcements and gowns and senior class pictures
- Information on how to access financial aid and scholarships
- Senior-year expenses and deadlines
- Information about work programs and apprenticeships
- Information about opportunities to receive credit while performing community service
- Review of career major and program of study
- Selection of courses for senior year based on career major
- Planning for post-high school and school-to-work transition.

Twelfth Grade

Seniors meet with their CAP advisor monthly to update career portfolios and work toward a smooth transition from high school to work or postsecondary education. Advisors continue to use the prepared career curriculum videos and worksheets to help students as they make career decisions. Community service is encouraged by giving elective credit options and by stressing the importance of volunteerism in our community.

Students use software in the Media Center and in the Career Center to explore career opportunities and colleges. Representatives from the military, postsecondary institutions and the community are available to meet with students in the Career Center on a frequent and regular basis. An annual Career Fair and College Fair provide additional opportunities for students and their parents to interact with potential employers and representatives from colleges and technical schools. Students also receive assistance in applying for work, college, financial aid and scholarships.

The guidance staff works closely with business, industry and the human resource managers in Northwest Arkansas to keep abreast of career opportunities for students in the area, as well as to help students learn the skills needed to apply for, acquire and keep a job. Seniors have an exit interview at the end of the first semester to help them finalize plans for school-to-work and to identify students who need assistance in placement.

How CAP Conferences Work

A one-week CAP Conference "window" is scheduled each spring. Each school schedules one or two days of conferences. At the high school the conferences run from noon until 7:00 p.m. one day and until 8:00 p.m. the other. Parents are notified of the time of their conference and invited by telephone, although one junior high has been successful using written notices to parents. If a parent cannot attend at the specified time, the teacher/advisor is responsible to hold a CAP conference with them and the student at another time.

The physical layout for CAP conferences encourages collaboration among parents, students and teachers, and gives the feeling that "we are all in this together". The conferences are conducted in the school cafeteria using the tables and chairs in that room. At the high school there are more than 85 teachers involved, so it looks somewhat like a busy beehive. Teachers are seated alphabetically, one at each end of the eight-foot tables, with stand-up name signs used for identification. There are two or three extra chairs by each teacher with others close by if needed. Students are selected to serve as greeters and to help show parents where to go and run errands. It is important to have everything set up and teachers in their places before the first conferences begin.

The issue of confidentiality always comes up, but has never been identified by parents, students or teachers as a problem. We attempt to place the tables far enough apart to provide as much privacy as possible. Teachers search each other out for answers to curriculum questions and collaborate with counselors throughout the process to provide the best information to parents and students as they make career decisions. To make this easier, next year we plan to arrange the teachers in "pods," with an English, math, science, social studies and vocational teacher in each pod.

Parent attendance at CAP conferences is over 90 percent at both junior highs and the high school. Feedback has been very positive.

We have discovered the details listed in the box at right to be essential to successful CAP conferences.

Using Career Portfolios

Each student's career portfolio is initiated during the semester-long Career Orientation class in the eighth grade. It contains results from achievement tests, career assessments, learning styles, interest inventories and aptitude tests, along with grade reports. Students also enter career information they receive during monthly CAP advisor periods in Grades 10-12. The portfolios also contain space for students to list work experiences and activities as well as honors. Students update and review the portfolio on a regular basis. Seniors take their portfolios with them when they graduate to help them prepare for interviews and further career decision-making.

The 18 school districts in northwest Arkansas now use the same career portfolio to save on costs. The area vocational high school prints the portfolios for all the schools.

Practices for Successful CAP Conferences

★ Have conferences in one large area (gym or cafeteria) to promote collaboration and a feeling of camaraderie
★ Use students as greeters at the door to show parents where to find advisors
★ Arrange advisors in alphabetical order
★ Use stand-up name signs with advisor names on the tables
★ Have students assigned to advisors alphabetically to ease paper shuffle
★ Have a "seating chart" of where each advisor is located
★ Use name tags for advisors
★ Have available teachers and counselors who are willing to fill in if a teacher gets behind schedule
★ Have extra materials (portfolios, handouts, course description guides) in a central location
★ Have counselors available in one central location to answer questions and help with tough situations
★ Provide a "break room" with food and beverages for teachers
★ Use a PA system (very sparingly) for emergency announcements

The Counselor's Role

The guidance program at Springdale High School is shifting to a competency-based model. Under this model, the skills needed by students to be successful in the workplace are identified and activities are developed to systematically teach students these skills. This is quite a contrast to a crisis-based model in which counselors spend 90 percent of their time with 10 percent of the students who are having problems. Individual guidance and counseling is still an integral part of the program, but the focus is on helping all students—not just the few who may be experiencing problems at any given time—develop interpersonal and workplace skills.

Springdale High School counselors work closely with teacher/advisors to coordinate career guidance for students, exchanging nonconfidential information and assessments about students. They serve on the high school's curriculum committee. Counselors also meet regularly with representatives from business and industry to keep current on career opportunities in our area, serve on the Parent Advisory Committee, meet regularly with standing committees (Youth Apprenticeship, tech prep, JTPA, Economic Education) and work with Northwest Arkansas Community College (NWACC) and Northwest Technical Institute (NTI) to develop articulation agreements.

Counselors' other activities within the CAP program include:

- Providing career-planning information through classroom guidance activities
- Training teachers as advisors
- Keeping the Career Center current
- Setting up annual CAP conferences
- Setting up the School-to-Work/Designing Your Future conference for juniors
- Training the faculties of the junior high schools, as well as the high school faculty, in conducting CAP conferences.

The positions of Guidance Coordinator and Vocational Coordinator are combined into one position in Springdale Public Schools. Therefore, the coordination of career guidance, tech prep, youth apprenticeship and other school-to-work initiatives is by design an integral part of the counseling and vocational programs. This is an important factor in assuring the coordination of the career development program in grades K-12 (vertical alignment) and across the content areas.

A viable career planning program is built on collaboration. It cannot be a one-person show. Under the leadership of Springdale High School, counselors from the 18 districts regularly meet and work together to provide optimum career planning for all students in Northwest Arkansas.

Evaluation of CAP

At the end of the CAP conference, each parent is given an evaluation sheet to fill out and put in a box as they leave. Teachers also fill out evaluation sheets in which they make suggestions for improving the program. These evaluations have been essential in shaping the program—not only in terms of working out logistics like what time of year to hold the CAP conferences and how to set up the room, but also in terms of the need for conferences throughout high school. We initially planned to hold CAP conferences only in the eighth grade. It was parent feedback that showed us that we needed to have conferences every year up until twelfth grade.

How We Implemented CAP

Springdale High School is now in the fourth year of its five-year CAP implementation plan. Following is a brief description of the year-by-year implementation of the program as it has evolved, including our advice for schools implementing a similar program.

Year One

Top Level Commitment

Our first step was to get a complete buy-in from district administration, including superintendent, principals and other key personnel such as counselors and department heads. The Springdale school district demonstrated its commitment to the

CAP program in many ways: providing time for needed in-service training of career advisors; adding a state-of-the-art Career Center with the latest technology in career assessments and information in 1994; hiring a Career Counselor in 1994; and requesting, on behalf of all 18 school districts, that the Arkansas Department of Education allow release time for CAP conferences during the 1995-96 school year. Additionally, the four counselors at Springdale High School are not involved in administrative tasks and over 80 percent of their time is spent on teaching and counseling for skills needed by students to succeed in life.

Program Planning

During the planning stage we involved counselors, teachers, students and parents. We established a CAP committee to research and make recommendations about the program and include input from parents, students, teachers and business and industry representatives. We found it is important to enlist an energetic person to oversee the program.

In selecting and training advisors, we began with one grade level—the eighth grade. We trained one-third of the high school and junior high teachers. It's important to enlist enough volunteers so that no teacher has more than 12 students to advise during the conferences. We developed a career portfolio and training materials to use in training the volunteer advisors. We also determined Advisor Groups, making assignments alphabetically.

CAP Conference Planning

We placed CAP Conferences on school calendar and worked with business and industry to get support so that parents are encouraged to attend. After conducting CAP conferences in the spring with all eighth-grade students, we evaluated the program and made plans for improvements. We began planning to conduct CAP conferences for all eighth- and ninth-grade students the following year.

Year Two

Materials Development

We developed curriculum units and handouts to use in high school advisor periods (this was a yearlong process). As mentioned earlier, this was a cooperative effort among the 18 school districts in northwest Arkansas. Counselors, tech prep teachers and vocational directors pooled their talents, time and district money.

After brainstorming about the type of information we wanted to cover, counselors from Springdale High School wrote the video scripts and the staff of the Northwest Arkansas Education Service Cooperative produced them (this cooperative coordinates career counseling and tech prep for the 14 small school districts in the area). We used students as presenters in the videos.

Program Expansion

We enlisted additional teacher volunteers (some may be reluctant) to serve at CAP conferences for eighth and ninth graders. We included the first set of trained advisors in training new teacher/advisors. We scheduled meetings between senior and junior high teachers to discuss courses and programs of study and scheduled assemblies for ninth-grade students to introduce elective courses. We recommend "teaming" with other area schools to pool resources (time, talent, money) and to develop an area-wide support for CAP.

CAP Conference Planning

In the second year, we arranged for advisor groups to meet four or five times prior to the CAP conferences. We conducted CAP conferences in the spring with all eighth- and ninth-grade students and their parents, evaluated the program and made plans to add tenth grade to CAP conference schedule (in our case, this is the first time for CAP conferences at the high school)

To select peer helpers, we surveyed all high school students, having them list the top three students and top three adult school personnel they would go to talk with. In this way, we hoped to identify students who have good listening skills and whom people would trust. We selected those students most often named and trained them to be Peer Helpers.

Year Three

Program Expansion

In the third year, we trained the final one-third of the teachers to be advisors (including all others in the training as well). We trained advisors in the use of the prepared career curriculum units. We scheduled monthly CAP advisor periods at the high school and assigned students to CAP advisors (each teacher will have a mixture of tenth-, eleventh- and twelfth-grade students assigned alphabetically).

We conducted CAP conferences for Grades 8–10, evaluated the program and made plans to add eleventh grade to the CAP conference schedule.

Years Four and Five

In the fourth year, we plan to continue advisor activities and CAP conferences, including eleventh-grade students. We will evaluate the program and plan for improvements. In the fifth year, we will continue advisor activities and CAP conferences—including twelfth graders as well—and evaluate the program and plan for improvements.

Training Advisors

We found it was important that the training of advisors be a progressive process. In the first year, we only held conferences for eighth-grade students so it was not necessary to train advisors in every detail of the high school's programs of study or in the total curriculum. Choices for course selection are usually limited in the ninth grade, so we limited the training to the possibilities open for ninth-grade students. It is very tempting to "train too much" the first year and overwhelm the advisors. Keep it simple and concise with assurances that there will be other teachers and counselors available at all times to answer questions.

The training packet should focus on the CAP conferences. We included an agenda for the training, checklists of items to cover during the conferences, a phone script to be used when inviting parents to the CAP conference, a time line, course registration sheets, a career portfolio, graduation requirements, an appointment sheet for scheduling conferences, examples of career assessments and any other information to be used.

We trained one-third of the faculty the first year (both junior and senior high teachers), that group and another one-third the second year and all faculty the third year. The formal training was built into staff development training and lasted six to seven hours. The counselors were also available during planning periods, lunch periods and after school to work with the advisors one-on-one or in small groups.

We always started our training sessions by flashing on an overhead projector jokes or cartoons that applied to the situation. Our counselors, who conduct the training, constantly search for material to help the advisors relax and feel at ease. A humorous approach or reinforcement is often more memorable than simply giving the facts.

Practices That Support Success

We have found the following practices essential in implementing a successful career planning program along the CAP model:

- ★ Opportunities for teachers to give feedback and have their concerns addressed. For example, the high school principal holds "planning-period" faculty meetings the day after the CAP conferences and we incorporate many of the suggestions expressed then into the next year's conferences. The junior high principals do the same thing at faculty meetings right after the conferences.
- ★ Good internal communications so all faculty members understand the long-range plans. It is important to communicate the expectation of eventually having 100 percent faculty involvement.
- ★ Frequent two-way communication between faculty and parents throughout the planning and implementation.

- ★ Calling parents individually to invite them to CAP conferences and confirming appointments prior to conference time either by mail or another call. Be sure to provide a phone script and to role play variations of the call during training.
- ★ Role-playing a CAP conference as part of the training.
- ★ A representative CAP committee.

Overcoming Obstacles

In implementing the program, we met with resistance on many occasions. Fortunately, the leaders in the program understood the political realities associated with even the smallest change in the way a school operates. Following is a list of the major problems we encountered and how we dealt with them.

Scheduling the CAP Conferences

In our first year, conferences were held during the school day along with parent-teacher conferences. As we worked toward the goal of having a conference every year for all students in Grades 8-12, we faced the question of how to get time during the school year for these conferences yet maintain the integrity of our standard parent-teacher conferences.

Representatives from all 18 school districts worked together to solve this problem by requesting from the Arkansas Department of Education a blanket waiver of two instructional days for CAP conferences in all the schools. Some of the districts plan to use one or two full days for CAP conferences; others will incorporate CAP conferences into regularly scheduled parent/conference days.

A word of caution about combining CAP conferences with regular parent/teacher conferences: Be sure that parents know well in advance that there will be scheduled CAP conferences and that regular parent/teacher conferences will require a separate appointment. This was the only parent complaint: that parents who always had been able to sit down and visit with teachers about student progress now found themselves waiting until a CAP conference was over. Scheduling times for parent/teacher conferences should alleviate this problem. At Springdale, we plan to conduct regular parent/teacher conferences in the fall and CAP conferences in the spring during which regular parent/teacher conferences also may be scheduled.

Teacher Turfism

Another obstacle was the feeling of some teachers that "counseling" students is not their job or that it is just another added work responsibility. A couple of responses we found helpful were: "What is best for kids is not always what is easiest for us," and "We do not just teach science, math, English, etc., we teach kids."

A strong argument to persuade reluctant teachers is that the CAP program gets parents involved in their children's schooling. Research is clear that parental involvement is a critical part of student success, yet our secondary schools, for some reason, have not been perceived as "parent friendly." Since implementing CAP, we have achieved a 92 percent parent participation rate in Grades 8-10. Parents who never set foot in their kids' school are involved in the education and career planning process and love it! Challenge teachers who complain that the CAP process is too much work or that it is not their job to come up with an alternative that involves over 90 percent of parents in the education of their children.

Teacher Anxiety

Many teachers' reluctance stemmed from fear of not feeling prepared to advise students about careers, and this was understandable. We tried to address their fears by assuring them that school counselors would train them thoroughly and carefully. We made sure counselors gave teachers the information and training in small enough chunks that teachers could digest it. Counselors provided large group training initially and followed up with small group and departmental training. The guidance staff was available during planning periods for individual training and even sat with a few teachers through the first conferences.

One of the greatest advantages to having the conferences in one large area is that it encourages teachers to confer with each other as they help students and parents make appropriate program of study and course selections. This is one of the most "comforting" aspects for teachers. (Sometimes we joke that there is such a feeling of support and willingness to help each other, that we will have a "group hug" and sing "Kum Ba Ya" at the end of the conference days!)

We explained to teachers that, yes, you will make some mistakes. So will we. But even a flawed process is far better than what we'd had in the past—students being advised by other 16-year-olds.

Counselor Turfism

Some schools found that counselors did not want to train teachers to do what they considered to be the counselors' job. Counselors feared that teachers might not be able to properly advise students.

It is important to be sensitive to counselors' feelings about their job and expertise. However, it might help to remind counselors that one of the aspects of school-to-work we often hear stressed—the importance of workers knowing "all aspects of the industry"—needs to be applied better within our schools. In many schools, teachers don't know graduation requirements or components of courses outside of their own curriculum. Training teachers to provide career guidance helps them learn "all aspects" of preparing students for life. Our teachers have said over and over again that CAP has been the best staff development program in which they have participated.

Resources

For copies of the CAP Advisor Training materials and/or information on the role of the school counselor in career guidance, contact:

Dr. Carolyn-Maddy Bernstein, Director
Office of Student Services,
National Center for Research in Vocational Education
University of Illinois Site
Room 345
Education Building
1310 S. 6th Street
Champaign, Illinois 61820

Investing in the Future

The Career Action Planning program has been an excellent vehicle for developing positive relationships among the faculties of our schools because of the collaboration and joint training required. Springdale High School personnel have learned that by working together they can do "a lot more a lot better." The CAP program has become a model for total school involvement in the development of a plan to meet the needs of our students as they transition from school to work.

The CAP program continues to evolve, change and improve as more teachers, parents and students are involved. In this process, we are often reminded of the words of Madeline Hunter:

> *If you want to feel secure, do what you already know how to do. If you want to be a true professional and continue to grow…go to the cutting edge of your competence, which means a temporary loss of security. So whenever you don't quite know what you're doing, know you're growing.*

Our goal remains the same: to give every student the information they need to make career decisions, and to help students, parents and teachers understand that the goal of schooling is not graduation but preparation for life.

Our ultimate goal is to have the CAP model implemented throughout Arkansas. Many of us spend a lot of time and energy informing the public and making presentations about CAP. We consider our work an investment in the future of our state.

Linda Auman holds the dual position of Guidance and Vocational Counselor at Springdale High School in Springdale, Arkansas.

CHAPTER 13

Integrating Academic and Vocational Teaching: An Overview

By Gene Bottoms
High Schools That Work
Atlanta, Georgia

The creation of school-to-work systems around the country holds great promise as an education reform because it incorporates many different elements and strategies for reform into an integrated system. Integrating academic and vocational teaching is a key to any successful school-to-work system. Just as school-to-work systems link school-based and work-based learning, they must also integrate content traditionally taught separately in vocational and academic classes if they are to prepare all students for both highly skilled work and further learning.

The goal of school-to-work systems is the same as the goal of any good high school: to raise student achievement and prepare every student for employment and further education. Our experience with the *High Schools That Work* program of the Southern Regional Education Board has shown that integrating academic and vocational studies has great potential for advancing this goal. Integration raises student learning in critical academic, technical and personal areas.

Why Integrated Learning?

Educators wondering about the importance of integrated learning to a school-to-work system will want to answer these questions:

- Are your high school graduates able to use mathematics content from algebra, geometry and statistics to solve three- to five-step mathematics problems typically found in a work setting?
- Can your graduates locate, read and interpret several items of information and organize them into a report?
- Can your graduates relate key biology, chemistry and physics concepts and principles to their career fields?
- Do your academic and vocational teachers visit and observe in each other's classrooms to work on ways to advance students' academic and technical learning?
- Do academic and vocational teachers make joint assignments leading to grades in both classes?
- Do all students in academic and vocational courses have challenging assignments outside of class?
- Do your students use mathematics to complete work-related projects and to make oral reports in class?
- Are your twelfth-graders required to complete a senior project (consisting of a written report, an oral report and a product) on an occupational or community topic?

If your answer to some or any of these questions is no, integrating academic and vocational learning needs to be a top goal for your school-to-work system.

Overview of Integrated Learning

A major goal of education is to equip students with key intellectual skills such as analytical thinking, reasoning, the ability to judge and the ability to balance opposing points of view. Integrated learning encourages students to use their knowledge to solve problems and complete tasks typical of those in the workplace and the community.

Teaching for understanding is the purpose of integrating academic and vocational studies. Students can memorize facts, but they need to understand what they learn in order to use it successfully in new situations. The more complex the task, the more depth of understanding is needed to complete it. Teaching for understanding creates challenging situations in which students test their knowledge by solving problems, building products and demonstrating what they have learned. Actively used knowledge becomes part of a student's intellectual repertoire, while disconnected facts are quickly forgotten.

Integrated learning occurs when academic and vocational teachers link curricula and instruction to help students understand how knowledge and skills are used in real life. It engages students in conducting work-related research, designing and producing products and preparing and making presentations. When students see meaning and purpose in what they are learning, they become more interested in schoolwork and improve their chances for success.

The Southern Regional Education Board and its 19 state partners view integrated learning as a way to raise the achievement of the "neglected majority"—those students in the middle percentage of ability and performance who are not necessarily planning to go on to college.

We refer to these students as "career-bound," meaning that they plan to work, attend a two-year community college or vocational-technical school, participate in an apprenticeship program or enter the military after high school graduation. Career-bound students are not planning to enter a four-year college or university but may make that decision at some future time. These career-bound students need to master the essential concepts from the college preparatory curriculum (language arts, mathematics, science and social studies) as well as a career major.

Successful Examples

To understand what is meant by integrated learning, it is helpful to study examples of successful approaches. Some examples include:

- Students in technology education and physics classes at St. James High School in Louisiana worked together to design, construct and test a Hovercraft land and water vehicle. Through this project, teachers helped students understand and use several concepts from mathematics, technology and physics. Students strengthened teamwork skills and gained the satisfaction of completing a long-term assignment.
- In Project Greene Thumb, students in agriculture classes at Greene-Taliaferro Comprehensive High School in Greensboro, Georgia, developed a plan for growing and selling plants. They used skills and knowledge from language arts, mathematics, science and agriculture courses. In the project, students completed a marketing survey, a written report on principles of plant science, a budget and a marketing plan.
- Students at Bessemer Center for Technology in Bessemer, Alabama, conducted a school beautification project requiring students to use knowledge and skills from drafting, construction, mathematics and science. Drafting students received help from local business leaders and local technical college students in selecting plants and deciding where to place them on the school grounds. Science students analyzed soil samples. Students in mathematics and building construction classes designed and built a greenhouse to hold donated plants until maturity.
- Each twelfth-grader at Paul M. Hodgson Vocational-Technical High School in Newark, Delaware, combines academic and vocational knowledge and skills in a Senior Project consisting of a career-based research paper, an applied product and an oral presentation before an audience. Senior projects are based on challenging topics such as:

The Southern Regional Education Board's High Schools That Work Program

The Southern Regional Education Board's *High Schools That Work* program is the nation's largest and fastest-growing effort to combine challenging academic courses and modern vocational studies to raise the achievement of high school students in general and vocational studies. The program was established in 1987 by the SREB-State Vocational Education Consortium, a partnership of states, school systems and school sites. The Consortium Board includes the State Directors of Vocational Education and the designated *High Schools That Work* state coordinators in the 19 member states.

High Schools That Work has grown from 28 pilot sites in 13 states to its current size of over 450 sites in 19 states. The states include Alabama, Arkansas, Delaware, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia and West Virginia. Other states are looking at ways to join the *High Schools That Work* program, and numerous schools outside the network are adopting the HSTW framework and materials as a basic strategy for improving high schools for career-bound youth.

High Schools That Work is based on the belief that students in general and vocational programs of study can master complex academic and technical concepts if schools create an environment that encourages students to make the effort to succeed. Member schools implement these 10 key practices:

❶ Setting higher expectations and getting career-bound students to meet them

❷ Increasing access to challenging vocational and technical studies, with emphasis on using academic and problem-solving skills in the context of the workplace

❸ Increasing access to academic studies that teach the essential concepts from the college-preparatory curriculum through function and applied strategies

❹ Having students complete a challenging program of study with an updated academic core and a major

❺ Providing students access to a structured system of work-based and high-status school-based learning collaboratively planned by educators, employers and workers and resulting in an industry-recognized credential and employment in a career pathway

❻ Having an organizational structure and schedule that enables teachers to plan and provide integrated instruction

❼ Having each student actively engaged in learning

❽ Involving each student and his or her parents in a career guidance and individualized advising system aimed at ensuring the completion of the program of study

❾ Providing a structured system of extra help to enable career-bound students to successfully complete the program of study

❿ Using student assessment and program evaluation data to continuously improve curriculum, instruction, school climate, organization and management to advance student learning.

SREB provides member states and sites with staff development, technical assistance, communications and publications and assessment. The Annual *High Schools That Work* Summer Staff Development Conference is a focal point for year-round professional development. The national best-seller, *Making High Schools Work*, describes the initial years of the program during which data showed clearly that the *High Schools That Work* goals and key practices can change schools and improve student achievement.

In 1992, SREB received a six-year grant from the DeWitt Wallace-Reader's Digest Fund to expand the *High Schools That Work* program. Additional support is provided by The Pew Charitable Trusts, the Whitehead Foundation, the BellSouth Foundation and the U.S. Department of Education.

For more information, contact Gene Bottoms, Director, *High Schools That Work*, Southern Regional Education Board, 592 Tenth St., NW, Atlanta, GA 30318. Phone 404/875-9211.

- Irrigation and drainage systems of sports fields
- Remodeling a home for a person with a disability
- The social and economic impact of electricity
- Care and treatment of pediatric AIDS patients

Reasons for Integrating Curricula

In considering adoption of any innovation that promises to improve student learning, school leaders and teachers will want to develop a set of reasons for doing so. Educators launching integration efforts need to be prepared to explain the integration concept and the reasons behind it to colleagues, students, parents and the community. The following reasons for integrating academic and vocational studies are those given most frequently by teachers and school leaders from *High Schools That Work* sites making the most progress in improving student learning.

Integrated studies keep alive a "yearning for learning" among youth. Integration answers the fundamental questions, "Why do I need to know this?" and "How will I use it?" Students begin to connect school-based learning with careers calling for word smarts, number smarts, technology smarts and people smarts. These students discover that school-based learning really does count in the world they will enter after high school graduation.

Integrated learning is how people learn in the real world. People learn quicker and more easily if information is given in context. Integration draws on the brain's inherent tendency to seek relationships, to put things in context and to learn from experience. For example, the study of physics takes on meaning when students see physics principles in action in an automotive lab.

Academic and vocational integration improves the academic achievement of more students. Academic teachers who collaborate with their colleagues in vocational education can provide college preparatory-level language arts, mathematics and science knowledge and skills to a wider range of students. As a result, vocational education becomes more rigorous and academic learning becomes more relevant. *High Schools That Work* sites making the greatest gains in rais-

Progress of the Seven Most-Improved Schools Toward High Schools That Work Goals in Reading, Mathematics, and Science Between 1990 and 1993

High Schools That Work Student Assessment Scores

	Reading	Mathematics	Science
High Schools That Work Goal	55.5	301.0	280.7
1993 Score	54.0	291.7	273.7
1990 Score	51.2	286.5	257.0
Percent Improvement toward goal	65 %	36 %	70 %

Notes: Scores are taken from the *High Schools That Work* Student Assessment administered to vocational completers at the seven schools in 1990 and 1993. The assessment is based on the National Assessment of Educational Progress (NAEP). The differences in scores between 1990 and 1993 are statistically significant. Reading scores are based on a scale of 1 to 100. Mathematics and science scores are based on a scale of 1 to 500.

ing the achievement of career-bound students in academic subjects are the ones making the most progress in getting academic and vocational teachers to work together to integrate learning. The table on the preceding page, based on data collected from the seven most-improved *High Schools That Work* sites, shows the increased achievement of students in core academic disciplines at these schools.

Integrated learning helps students make education and career plans. Students who use academic knowledge and skills in the context of broad career fields begin to recognize their aptitudes and interests and to formulate tentative career goals. They discover that entry-level jobs are not the only ones available in the workplace. For example, students who observe and interview personnel, write case studies and oral histories of people and their work and conduct opinion polls strengthen their information-gathering and information-processing skills and gain new insights about themselves. By the same token, students who develop scale drawings and models, make and defend cost estimates for a variety of projects and compile other data can advance their understanding of mathematics and discover the role of "number smarts" in a variety of career fields. As students observe skilled professionals in actual work settings, they begin to project themselves into these roles and to take the tougher courses needed for these jobs.

Integrated learning promotes success for more students. Today's workers need flexibility, decisiveness, technological expertise and communication skills. To prepare more students for the new workplace, teachers need to use instructional strategies that link school-based learning with experiences from real life.

Integrated learning helps academic and vocational teachers expand their repertoire of teaching strategies. It enables teachers to move beyond lecturing and having students fill out work sheets. It allows teachers to awaken students' minds through problems, projects and products that relate academic knowledge to the work environment. New integrated instructional methods make it possible for students to analyze, synthesize, hypothesize and demonstrate higher-order thinking skills. Students put their knowledge to work by challenging assumptions, analyzing problems, taking the initiative and creating solutions in a work-related context.

Integrated learning promotes professionalism among teachers as they work together to raise student achievement. Integration enables academic and vocational teachers to take a "learning journey" together. It provides opportunities for teachers to take the initiative in their classrooms and to work with others in developing curriculum and instructional strategies. Teachers grow professionally as they learn more about the workplace and about relating academic concepts to students' lives.

Integrated learning builds parent and community support. A relevant curriculum gives parents and business leaders opportunities to become involved in raising student achievement. Parents and employers can assist by speaking to groups of students, serving as consultants on special projects, mentoring students, hosting visits and projects at the workplace and helping evaluate students' products and performances. Integration builds bridges between the worlds of youth and adults.

What Integrated Learning Is *Not*

In examining an educational innovation, it may be helpful to look at what it is not as well as what it is. Most innovations fail because they are misunderstood and poorly implemented, rather than because they are bad ideas. If you are considering integration of academic and vocational studies, you will want to know what it is not.

Integration is *not* activity for activity's sake. Integrated learning is based on helping students understand major concepts, themes and theories from academic and vocational disciplines. It connects the concepts taught in academic courses with the concepts taught in vocational studies. It engages students actively in learning through use of research questions, thematic topics and projects that relate academic content to real life. Integration further involves students in relevant, challenging activities to complete their projects and demonstrate that they understand academic and technical concepts. Activities may be the most visible part of curriculum integration, but they are not the whole story. Activity for activity's sake seldom results in true learning. Planned integrated curricula focusing on the higher-order thinking skills needed in today's world will bring true learning within the reach of all students.

Integration is *not* job training. Integrated learning emphasizes the communication, mathematics, science and technology skills needed for success in a changing world. The 1991 report by the Secretary's Commission on Achieving Necessary Skills (SCANS) listed five competencies and a three-part foundation of skills and personal qualities required for solid job performance. Integrated academic and vocational learning provides an instructional model for addressing these requirements.

Integration is *not* a lecture-only instructional method. In integrated learning, students learn by doing rather than by listening to classroom lectures. They solve problems, observe adults' use of knowledge, talk with workers in an occupational field and create products and reports. Schools and classrooms achieving the highest level of learning have students work in groups; think and discuss ideas and develop and implement plans in collaboration with teachers, parents and community representatives.

Integration is *not* top-down lesson plans. In integrated learning, projects and lesson plans emerge as teachers, students and community practitioners discuss the relevance of concepts from chemistry, physics, mathematics, language arts and technical fields to real life. Locally developed integration activities help students gain greater understanding of the connections between school-based learning and their own interests.

Integration is *not* rote memorization of isolated facts and processes. Facts, procedures and basic skills are the foundation of thinking and learning. However, they lose their effectiveness when they do not fit into the "big picture." Vocational and academic teachers can fall into the trap of asking students to memorize procedures and to perform unrelated tasks. Integrated learning requires students to use their knowledge to analyze situations and solve problems.

Integration is *not* a strategy that assesses learning through traditional multiple-choice, true-or-false, or fill-in-the-blanks tests. Integrated learning calls for new ways to document students' understanding, including work samples, audio cassettes, videotapes, photographs, student journals, essays and interviews. Students must be able to demonstrate that they have met clearly defined standards and that they can use the knowledge gained.

Good integrated learning results in constant student improvement. It involves students early in painting a picture of what is required for quality performance so that they can look regularly at their accomplishments, determine how well they are doing and decide what else is needed. Students who internalize standards and perform self-evaluations are motivated to work harder to meet desired levels of achievement.

Conditions that Support Integration

To facilitate integration of academic and vocational studies, school systems and school leaders need to overcome certain barriers and create certain conditions. Nine of these key conditions are discussed here.

CONDITION 1: Set higher expectations and get students to meet them.

When you set higher expectations, you communicate the message that high school is important and that high performance counts for all students. Integration involves blending higher-level academic studies with challenging vocational instruction. Yet, SREB surveys of 12,000 high school academic and vocational teachers conducted in 1993 and 1994 revealed that these educators ranked the goal of helping career-bound students master essential content from the college preparatory curriculum next to last on a list of goals. Some teachers doubt that students in general and vocational studies are capable of learning complicated materials. This myth needs to be dispelled so that all teachers will set high expectations for all students.

Reports from students themselves, one year after high school graduation, provide even stronger testimony that schools are failing to expect enough of young people. A survey of 2,300 youth who graduated from new *High Schools That Work* sites in 1993 revealed that most of them wished their schools had demanded more of them as shown in the box below.

These youth are discovering that the best opportunities go to workers who possess strong mathematics and communication skills. They are finding that they are unprepared to continue learning in either a work or an educational setting. For integration to succeed, teachers must have support in setting higher standards and in using integrated techniques to motivate students.

What Students Think About Their High School Experience

- **68 percent** wished school leaders had set higher standards;
- **74 percent** thought their schools should have placed more emphasis on communication skills;
- **73 percent** thought their schools should have placed more emphasis on mathematics;
- **63 percent** thought their schools should have placed more emphasis on reading;
- **52 percent** thought their schools should have placed more emphasis on science.

(Data from survey of 2,300 1993 high school graduates at SREB High Schools That Work *sites)*

CONDITION 2: Teach challenging vocational studies, including emphasizing the use of academic content in the workplace.

Success in the modern workplace is based on the ability to apply academic and technical knowledge in communicating and in solving problems. Vocational teachers need to devise learning experiences through which students use language arts, algebra, geometry, statistics and science knowledge and skills in performing tasks and designing and making products.

It is ironic that most vocational teachers at new *High Schools That Work* sites in 1994 did not believe that their school and system leaders expected them to have students read, interpret technical materials and use mathematical concepts to solve work-related problems. Vocational teachers who set high standards and make challenging assignments will automatically see a need for working with academic teachers to plan integrated learning experiences.

CONDITION 3: Drop low-level academic courses and prepare teachers to teach the essential concepts from the college preparatory curriculum to career-bound students.

For integration to work, academic teachers need to give challenging assignments to all students rather than rely on drill sheets and memory work. Seventy-five percent of a total of 12,000 academic and vocational teachers surveyed at new *High Schools That Work* sites in 1993 and 1994 said career-bound students are unable to write well, solve complex problems and concentrate on difficult tasks. Yet, when asked if they constantly emphasize these skills, only 25 percent answered "yes."

Given these findings, it should come as no surprise that many career-bound youth cannot compare the views of two authors, analyze what someone has written, or state an opinion regarding an article or a book. We should not be surprised that these students cannot solve three- and four-step mathematical problems; collect, organize and present data; use various measurement systems; or apply geometric concepts to work-related activities.

Schools need to offer courses that involve students as workers in writing research papers, producing quality products, preparing and making oral reports, presenting ideas and defending opinions, using mathematics to solve real-life problems and presenting their findings in class. Teachers need to function as coaches, mentors and facilitators rather than as sources of all knowledge.

CONDITION 4: Require students to complete a challenging program of study consisting of an upgraded academic core and a major.

Enrolling students in a challenging, focused program of study is a key condition for any high school integration effort. Failure to provide a clear focus for students enrolled in general and vocational studies will spell failure for integration efforts.

We recommend replacing the general track by requiring at least 90 percent of students to complete a rigorous set of academic courses and an academic or career major, as shown in the table below.

Transcript data from new *High Schools That Work* sites in 1993 showed that these schools have a long way to go in enrolling career-bound students in challenging programs of study. Only five percent of students at these schools completed four years of college preparatory English; only 30 percent took three years of science, including two courses at the college preparatory level; and only 39 percent finished three years of mathematics, including two courses acceptable to colleges and universities. These schools are probably representative of the majority of high schools in the nation that have not yet made an active effort to integrate core academic and vocational learning.

CONDITION 5: Create a school organization, structure and schedule enabling teachers to work together in integrating academic and technical studies.

To develop integrated learning approaches that advance student achievement, teachers must have quality time and resources for collaboration. Teachers in too many high schools work in isolation from each other. Often school scheduling patterns create a logistical barrier that makes it hard for academic and vocational teachers to meet and work together. It is no wonder teachers are unable to match their goals and course content with those of other teachers. In fact, the 1993 and 1994 *High Schools That Work* Teacher Surveys revealed that only eight percent of academic and vocational teachers are aware of what their colleagues do.

School systems and administrators must find ways to bring teachers together during the school year and in the summer to strengthen respect, trust and cooperation that are essential for integrated learning to succeed. Schools must be willing to make changes in scheduling patterns, if necessary, so that teachers can have blocks of time for both planning and teaching together.

CONDITION 6: Broaden classroom assessment to include student products and performances.

Traditional assessment methods must be expanded to measure students' progress in integrated learning. If students are expected to solve problems, then problem-solving must be the focal point of homework, tests and assessment associated with this instruction. In real life, individuals are evaluated on how they use what they know.

Recommended High School Coursework*

English	Mathematics	Science	Social Studies	Academic/ Career Major
4 years (College Preparatory)	3 years (2 courses equivalent to Algebra I or Geometry)	3 courses (2 lab courses acceptable to major universities)	3 courses	600 hours

**This is the model program of studies recommended by the* High Schools That Work *program for 90 percent of students.*

Students take assessment more seriously if it is linked to reality and if they understand the evaluation criteria and process in advance.

CONDITION 7: Provide staff development to support teachers in integrating academic and technical studies.

Lack of understanding about curriculum integration and lack of consensus among teachers regarding what constitutes good teaching practices can be obstacles to successful integration. Schools wanting to integrate academic and vocational studies must offer staff development on integration so teachers have the time and training to make integration work. In fact, many school leaders identify staff development as the key to success in providing integrated learning.

Academic and vocational teachers at new *High Schools That Work* sites in 1993 and 1994 listed common planning time as a high priority for staff development. They want time to share ideas with other teachers and to work together to develop integration plans and materials. Teachers said they would like to observe outstanding practices in other classrooms and in other schools. They would also like to visit workplaces to view how academic skills are used in daily activities.

CONDITION 8: Involve parents in the effort to integrate academic and vocational studies.

Parents and schools need to work hand-in-hand in helping career-bound students succeed in a challenging, integrated curriculum. Yet, 70 percent of career-bound students at *High Schools That Work* sites said they never met with their parents and a guidance counselor or a teacher-advisor to plan a high school program of study.

High-achieving schools are discovering the importance of involving parents in integrated learning. Teachers at Okeechobee High School in Florida conducted a parent meeting to explain a new agriscience integration project. Parents agreed in writing to serve on an advisory group and to support their children's efforts. They have fulfilled the commitment by suggesting real-life projects and by contributing materials and expertise. Teachers report that student motivation has increased due to parental involvement.

CONDITION 9: Be willing to learn as you go.

Schools need to create an environment of continuous improvement in integrating academic and vocational studies and in raising student achievement. However, many teachers do not see improvement at their schools. Only one-third of teachers at new *High Schools That Work* sites said that their schools continually evaluate programs, that teachers continually learn and seek new ideas, that teachers receive encouragement to experiment with new instructional techniques and that teachers work with administrators to improve student learning. Integration works best when school leaders recognize that improvement takes place little by little, day by day.

Getting Started in Integration

Creating Teacher Teams for Research

To integrate academic and vocational studies, school leaders and teachers must agree on the need to raise the achievement of all students, especially career-bound students. They must understand the necessity of preparing students for careers in an increasingly complex work environment and the role that high school leaders and teachers play in the success or failure of these youth.

Teachers cannot coordinate curricula and instruction if they do not know each other's objectives. One place to begin is to conduct a series of activities aimed at breaking down the walls between academic and vocational content. Interdisciplinary teams of teachers from language arts, mathematics, science, social studies and vocational areas can be organized to study certain issues relevant to improving students' education. These teams might want to:

- Contact recent graduates to determine what they wish their high school had done for them.
- Interview graduates who entered a community or technical college, an apprenticeship program or a four-year institution to determine if they had to take noncredit remedial courses.

- Interview employers who have hired youth who graduated from high school during the past five years. Ask employers if these youth were prepared for today's workplace. If not, what additional academic, technical and personal qualities did they need?
- Examine the transcripts of students who completed a general or vocational program of study. How many of them completed a rigorous academic program and a career major?
- Survey current career-bound seniors regarding their perceptions of high school. Their viewpoints are likely to be dramatically different from those of college-preparatory students.

As teams conduct their investigations, it may be helpful for them to visit other schools to observe integrated instruction and planning sessions. They will want to ask teachers at other schools about their planning process, future plans, lessons learned and words of advice.

Developing an Integration Plan

The interdisciplinary teams will want to come together to share what they have learned about integrating academic and vocational studies. The larger group can then process the information and recommend goals for raising student achievement through an upgraded academic core and a system of career majors. Once the goals for improving students' education are established, the next step is to ask all academic and vocational teachers to identify eight to ten major concepts from their disciplines that students will need for success beyond high school. Organize these concepts into a formal document that states what students are expected to accomplish in each grading period.

Ask teachers to connect the concepts in their own disciplines with those in other areas. Then ask them to develop an integrated learning plan for working on common objectives with their colleagues. It is a good idea to have teachers try out a part of their plan in one nine-week grading period and share the results with all teachers.

The written integration plan should consist of:

- One or more concepts teachers will work together to help students master
- A description of a project, a research question, or a thematic topic for helping students master the concepts
- Major instructional approaches for implementing the project, the research question, or the thematic topic
- A statement of what students should know, do and be like, as a result of integrated instruction
- An assessment plan for determining if students can use the knowledge gained.

Two Exemplary Integration Efforts

The charts on the next three pages give concrete examples of how integration has been put into practice in high schools affiliated with the *High Schools That Work* program.

The first chart demonstrates how the Howard School of Academics and Technology, a *High Schools That Work* site located in Chattanooga, Tennessee, developed a thematic unit on home construction and landscaping. The integrated unit involved students and teachers in the areas of building trades and maintenance, horticulture, drafting, English, mathematics, science and social studies. Each phase of home construction was used as the basis for planning integrated learning activities for the participating academic and vocational disciplines.

The second chart shows how a team of teachers at the *High Schools That Work* site at Drumright High School and Central Oklahoma Area Vocational-Technical School in Drumright, Oklahoma, developed a thematic unit on communication that involved students and teachers in social studies and psychology, mathematics, science, English and several vocational areas. The group used planned progressively complex learning activities for the students as they advanced through the unit. Other ideas for integrating material from academic and vocational fields are in the chart in the chapter appendix.

Howard School of Academics and Technology
Chattanooga, Tennessee
***Type of School:* Technical high school**
***Focus of Integration Efforts:* Construction and building-related studies**

Thematic Unit: Constructing a House and Landscaping the Site

	Building Trades and Maintenance	Horticulture	Drafting	English	Mathematics	Science	Social Studies
Background	Research legal documents for house construction, site preparation, groundbreaking, footing, and foundation. Set up a dummy corporation.	Identify landscape design principles. Identify and order landscape materials. Identify effective methods of greenhouse management.	Describe the purposes of a floor plan and a site layout.	Research landscaping designs. Use creative writing techniques to describe a "dream house." Read legal documents. Apply for building permits.	Calculate the cost of materials. Measure the site. Read scale drawings.	Conduct soil sampling to find the capacity of the site to support the weight of the building. Analyze samples of soil from the site.	Determine the relationship between geography and plant growth. Research the history of the area.
Logistics, Planning, and Foundation	Prepare the site layout according to procedures for squaring the unit.	Prepare a landscape design. Select plants. Use knowledge of drainage techniques to landscape the site.	Complete a site landscape plan. Complete foundation drawings. Complete the floor plan and layout of the site. Find the degree of grade required for the site (shooting the grade).	Write an analysis of space design.	Calculate measurements using a layout. Use formulas to determine areas. Figure the cost of construction materials.	Identify chemical and physical properties of cement.	Research irrigation models.
Framing	Use knowledge of properties of materials and framing procedures to frame the floor and walls.	Construct raised beds to connect with the floor framing.	Complete the floor framing plans.	Prepare a procedures manual on framing.	Use linear mesurement to estimate the size of materials. Convert fractions and decimals.	Determine the organic composition of wood by-products.	Research the history of tools.
Roofing	Cut rafters to fit written estimates. Frame the roof. Construct the roof decking and apply shingles.		Use knowledge of design principles and properties of roofing materials to complete a roof framing drawing.		Estimate the cost of materials for roof framing.	Identify the chemical and physical properties of roofing materials.	Research geographic influences on roofing design and materials. Research the history of roofing.

Thematic Unit: Constructing a House and Landscaping the Site *(cont'd)*

	Building Trades and Maintenance	Horticulture	Drafting	English	Mathematics	Science	Social Studies
Exterior/ Interior Finishing	Install windows and doors. Apply exterior siding. Complete interior finishing.	Prepare interior and exterior layouts for plant arrangements.	Use knowledge of materials, construction, and procedures to complete window and door installation schedules, wall section drawings, and interior and exterior perspectives.		Apply formulas to calculate measurements. Use decimals, percentages, and averages to estimate the cost of materials. Estimate the cost savings of types of insulation.	Identify the chemical properties of insulation materials. Identify the effects of freon on the environment. Consider possible alternatives to freon.	Describe the relationship between insulation and energy conservation. Identify the global effects of ozone depletion.
Landscaping		Use knowledge of energy conservation, efficient drainage, design, and plant compatibility and survival to place plants. Prepare a pest control plan to combat local pests. Identify small engine maintenance procedures. Plan and write a landscape maintenance plan.	Prepare a landscape design layout.	Use creative writing techniques to describe landscaping experiences.		Identify the physical properties and functions of fertilizer. Conduct soil sampling for pests. Prepare a chemical mixture for pest control. Identify the chemical compositions of herbicides.	
Marketing	Project the cost of maintenance.			Write newspaper articles to gain public recognition of the project. Create a story board of a marketing campaign. Develop television and radio advertisements to market the house.	Calculate the cost of a building loan, using varying interest rates. Project the amount of income needed to purchase houses of various prices.		Calculate the market values of houses in the area.

Drumright High School and Central Oklahoma Area Vocational-Technical School
Drumright, Oklahoma
***Type of School:* High school and area vocational-technical school**
***Focus of Integration Efforts:* Multi-occupational studies**

Thematic Unit: Communication

	Social Studies and Psychology	Mathematics	Science	English	Business Computer Applications
Knowledge/ Comprehension	Read section on propaganda (advertising) and describe what determines effectiveness. Choose subjects for propaganda (advertising).	Use statistical analyses to determine medium, mode, and other measurements.	Research gas pressures and concentration.	Describe integrated learning.	Use formatting techniques to set newspaper columns.
Application	Use propaganda techniques to create print advertisements.	Calculate medium, mode, and other measurements.	Use a sphygmomanometer to demonstrate blood pressure measurement. Measure blood oxygen concentration.	Prepare articles, poems, and stories for publication.	Use software applications to design and check work.
Analysis	Analyze advertisements for effectiveness and appeal.	Use statistical methods to analyze the cost of materials and trends in distribution.	Analyze the oxygen concentration by oximetry. Use charts to detect blood pressure readings outside acceptable ranges.	Select items to illustrate. Design illustrations that support materials.	Analyze effective use of space.
Synthesis/ Evaluation	Evaluate and select most effective advertisements based on student appeal. Modify advertisements.	Write an article on electrical cost. Write an article on athletic participation.	Write a short article on results.	Compare and evaluate articles submitted for publication.	Evaluate distribution of work among students in the project.

Integration Is Worth the Effort

Effective integration that advances student learning is not easily or quickly achieved. It requires creative, hard-working teachers, an active and supportive administration and a willingness to use resources and take risks.

Achieving curriculum integration is essential for a school-to-work system to be meaningful and truly serve all students. The effort required to blend challenging academic and career studies as part of a school-to-work system will pay dividends in improved student learning and motivation.

The following two chapters provide in-depth case studies of how two learning communities have had success integrating academic and vocational learning. Through hard work, these schools have achieved ambitious results. Your school can too.

Dr. Gene Bottoms has served as director of the Southern Regional Education Board's High Schools That Work program since 1987. Prior to joining SREB, he served as Executive Director of the American Vocational Association. He also served as Director of Educational Improvement for the Georgia Department of Education for 13 years, overseeing improvement efforts in vocational and academic education.

BEST COPY AVAILABLE

APPENDIX

The following table reflects teaching strategies schools associated with the *High Schools That Work* have used to integrate material from various academic disciplines and vocational fields.

The chart lists across the top the major academic areas and down the left side, the major vocational areas involved in each project.

Vocational	Language Arts	Mathematics	Science	Social Studies
Health	Prepare a research report on communicable diseases	Study blood pressure measurement, and check blood pressures	Conduct a comparative study on physical differences between youth who smoke and those who do not	Study government efforts to reduce alcohol and drug use
Business	Prepare a research report on the economic impact of industry on a community	Operate a school bank for student and teachers; have students prepare quarterly business reports with appropriate charts and graphs	Conduct a comparative study of the cost benefits of using technolgy in a business office	Research and plan a business study tour of another country; include costs and itinerary
Agriculture	Develop and present speeches on agriculture-related issues	Conduct a project on land measurement and surveying	Study and test ways to solve a school landscaping problem	Prepare an editorial for the school newspaper on the pros and cons of pesticides
Consumer and Family Services	Produce a magazine for new parents	Develop a notebook of mathematics problems representing skills gained in designing and building outdoor playground equipment	Measure the amount of harmful chemicals entering water and sewage systems from the use of dishwasher compounds and other household products	Study the economic and social impact of working moms on today's families
Trade and Industrial	Rent a movie of Romeo and Juliet for the purpose of building sets for a theater production of the play	Make presentations in mathematics class regarding mathematics concepts gained in designing and building an ecological walking trail	Design and build a Hovercraft land and water vehicle; prepare a notebook of science concepts used in the project	Research and report on the pros and cons of environmental regulations impacting a career field; conduct a debate on the regulations
Technology	Conduct research and write scripts for a news broadcast on water pollution	Design and build a remote-controlled robot; prepare a notebook of mathematics applications used in the project	Build model hot-rod cars and test them for speed and velocity	Study the impact of modern technology on current living standards; contrast current standards with those of 100 years ago
Marketing	Design and implement an advertising campaign	Conduct a marketing survey; compile and report findings in written and oral reports	Conduct a study of marketing strategies for a horticulture business	Research and develop a plan for marketing a local product to another country

Case Study:
Integrating Academic and Vocational Teaching

By Joan A. Ford
World Education, Inc.
Boston, Massachusetts

In the natural order of life, we learn information and apply it to the world around us. In combining academic and vocational education, we follow our natural way of doing things. Life is not separated into 40-minute blocks of isolated information that may be combined years from now.

One way to gain insight into integrating the curriculum is to look at how teachers of young children teach. Teachers who work with young children combine hands-on activities with book-based learning, which seems the most natural way to teach. Teachers talk to other teachers, bring in experts from the field and spend hours preparing for their high-energy students. For example, when my daughter's second-grade teacher chose "Ponds and Their Natural Habitants" as a month-long unit, the students undertook the activities listed in the chart on the following page.

A unit this complete teaches children how to learn. The child experiences education as fun and related to life. Each child in such a unit will share and retain more new information about ponds and their inhabitants than the average adult. Children develop self-esteem because they have had a chance to be successful and often will seek out more information. Learning is exciting!

Eventually, the same child progresses through grade school and leaves this environment for a stereotypical high school where a different teacher teaches each subject and there is little, if any, integration of subjects. At many high schools, communication among teachers of different disciplines can be minimal, to the point where science, math, English and computer teachers may not know each other. If the teachers are acquainted, they may have no idea what the others are teaching.

A high school that provides work-based as well as academic learning offers excellent opportunities for integrating academic and vocational teaching. For such integration to occur, there must be (1) a structure for employers and teachers to identify skills and knowledge needed for the workplace and (2) a mechanism for the teachers of different subjects to communicate with each other about teaching these skills.

ProTech, which provides school-to-work programming in Boston public schools, has developed a model that incorporates two such structures.

ProTech provides school-to-work programming in six Boston public high schools. *Two schools offer programs in both health care and financial services and the other four offer one program in either health care, financial services, utilities and communications or environmental services. Typically 20 to 30 ProTech students are added to each program at each school per year.*

The current group of ProTech students is 65 percent female, 35 percent male, 56 percent African American, 27 percent Latino, 8 percent Caucasian, 8 percent Asian and 1 percent other. ProTech students represent a broad range of prior academic experiences, from high achievers to those at-risk of failure. Almost 50 percent speak a language other than English at home, and in some schools, 25 percent are identified as having special needs.

"Ponds and Their Natural Habitants"

Subject/Skill	Activities
Reading	Read story books about ponds and their inhabitants
Research	Research one animal and answer questions such as: What do I already know about the animal? What would I like to know? How can I find out? Students visit the library, look for pictures, present their projects to other students.
Writing	Write and edit the research project, write a poem, write an essay about a walk in the woods, then proofread and rewrite. Develop spelling/ vocabulary lists, write sentences using the new words.
Mathematics	Develop charts and graphs, take measurements of items in nature. Use basic calculations to put species together. Use calculators.
Listening	Listen to sounds in nature, teacher questions and lectures, student presentations and outside experts
Computer	Write papers, research for project, develop a database of observations
Technology	View slides and videos, take pictures
Organization/ Classification	Organize information, classify animals, plants, insects. Reorganize entire classroom so it displays and reflects the unit.
Science	Do hands-on learning experiments. Discuss how animals are born, what they eat, their ability to survive. Bring in items for display table. Discuss recycling.
Field Trips	Where can the students go to experience this unit first-hand?

The ProTech Model

ProTech combines school-based learning with work-based learning and paid work experiences to prepare students for careers in the four industries with diverse career paths: health care, financial services, utilities and communications and environmental services.

The Boston Private Industry Council coordinates this program. ProTech evolved from the 1982 Boston Compact, in which the business community agreed to give hiring priority to Boston public school graduates in return for a focus by the school system on improving academic performance and reducing the dropout rate. In 1989, the Compact partners agreed to emphasize the development of high-skilled employment opportunities and the preparation of Boston's public high school students to qualify for these opportunities. ProTech began operating in the fall of 1991.

The ProTech model offers students the chance to observe and explore job opportunities first-hand while still in high school. What better way to find out if you are interested in health care than to work in the field? Students work with people who have completed certificate programs and who hold bachelor's, master's and doctoral degrees. In health care and financial services, many coworkers have acquired good job skills at work and taken advantage of company training programs. Students in the utilities and communications industry have the choice between in-house support or technical positions.

As a result of the work experience and observing co-workers, students become more aware of their varied options. After high school graduation, some ProTech students may choose full-time employment and part-time college with the assistance of the company's tuition reimbursement program. Others may hold a part-time job while attending college full time.

Each of the six participating high schools selects one or two of the industries described for the ProTech program and works with several employers from that industry. Each school submits a proposal to the industry's ProTech executive committee to conduct a ProTech program and places students with employers from that committee. Students are selected for ProTech at the end of their sophomore year and begin the program in their junior year. In the first part of the school year they start learning about the industry during eight to ten visits to the participating companies. The students are matched with a mentor at the worksite and are hired for a part-time job during their junior and senior years and a full-time job in the summer. Many continue to work for their ProTech employer upon graduation or while attending college.

In the ProTech model, the employers are responsible for teaching the students the specifics of their job. The school focuses on teaching the broad, cross-functional skills needed within the industry. To accomplish this, employers and teachers work together to develop an ongoing "circle of communication" to coordinate activities and integrate instruction. This process facilitates integration of academic and vocational learning.

Occupational Site Audit

When a school initiates a ProTech program, the participating employers, teachers, the school's ProTech coordinator and an outside education organization, World Education (WE), begin the process of communicating and planning. The first step, WE's Occupational Site Audit (OSA), provides teachers with a clear understanding of the worksites where students will be placed and the skills required for the jobs they will hold during their paid work experience.

During the OSA, the consultant and two to five teachers from the school (the OSA team) visit each of the participating worksites. They meet with the employers, observe employees and collect work documents, such as forms, memos, newsletters and job descriptions. Although the teachers spend some time with supervisors and potential mentors, most of the visit is spent with employees while they are doing their jobs. Teachers also meet field experts who volunteer to come to their classrooms and teach unique aspects of their industry.

Immediately after the visit, the OSA team identifies the exact skills required to perform each job. This debriefing session is quite detailed. Some of the skills required for each of these jobs overlap, but many of the skills are different.

The OSA team next determines what enabling skills a person needs before being trained for this job and how these skills could be taught. The OSA team does not analyze reading or math with reference to grade level or discuss the courses students take in school. Instead they talk about the skills, abilities and information necessary for a student's first step in a career in this industry.

The WE curriculum consultant then shows teachers how to take what they have seen, heard and collected in the OSA process and relate it to their prescribed curriculum and teach this material through classroom activities. Because the teachers are not training the students for specific jobs, they can focus on teaching all aspects of the industry and help students understand the difference between a career choice and a job.

Integrating Curricula

The OSA process helps teachers integrate their curricula and become better teachers. They begin to develop a picture of the overall skills and information needed to perform a job, rather than just what tasks are involved in the job. The OSA encourages teachers to develop hands-on learning experiences for their students. Through creating and teaching integrated lessons, experienced teachers have a chance to become learners and apply their new learning in the classroom. They also have an opportunity to work with other adults while becoming part of a yearlong supportive environment that combines businesspeople and educators.

Integration Materials

It is essential that the information that excites employers and teachers is put on paper. From the OSA, World Education's consultants produce three different types of materials that help teachers integrate their curriculum.

Interim Report. The Interim Report provides a foundation for the entry-level skills that need to be mastered within an industry. Each industry has at least a half dozen different entry-level jobs in which the students are placed. The Interim Report lists the 75 to 120 skills identified by the OSA team as necessary to perform those jobs at each worksite. The report is distributed to the OSA team—the supervisors, mentors, employees and teachers who participated in the OSAs for the industry. Each team member then prioritizes what he or she considers the 20 most essential skills on the list. The consultant compiles these responses into a final list of about 20 math, reading, listening and classification or organization skills relevant to ProTech jobs in that industry. Examples of skills on the list might include reading a bar graph, securing information during a telephone conversation, looking up information in an index or using a calculator.

Work Sampler. The Work Sampler is a customized, authentic assessment tool to assess students on the essential skills needed to perform the jobs reviewed during the OSAs. The WE consultant develops a Sampler for each ProTech industry program, using the final list of skills from the Interim Report. The Sampler, which consists of about 20 items with about 50 to 60 questions overall, gives the student the opportunity to demonstrate the skills needed for jobs in the industry while reading about the various tasks and work situations. The assessment is "user-friendly" because skills are assessed in contexts related to a field the student has chosen.

For example, if a task for the potential ProTech job is to "read customer billing information on a computer screen and answer questions for the customer about the bill," one Work Sampler item would have the students demonstrate this skill. (See project on the following page.)

A computer screen is represented on white paper with some of the billing information that might appear on an actual computer monitor presented in a spreadsheet format. The student reads the screen and answers the questions based on the information on the screen. Thus the student demonstrates previously learned problem-solving skills.

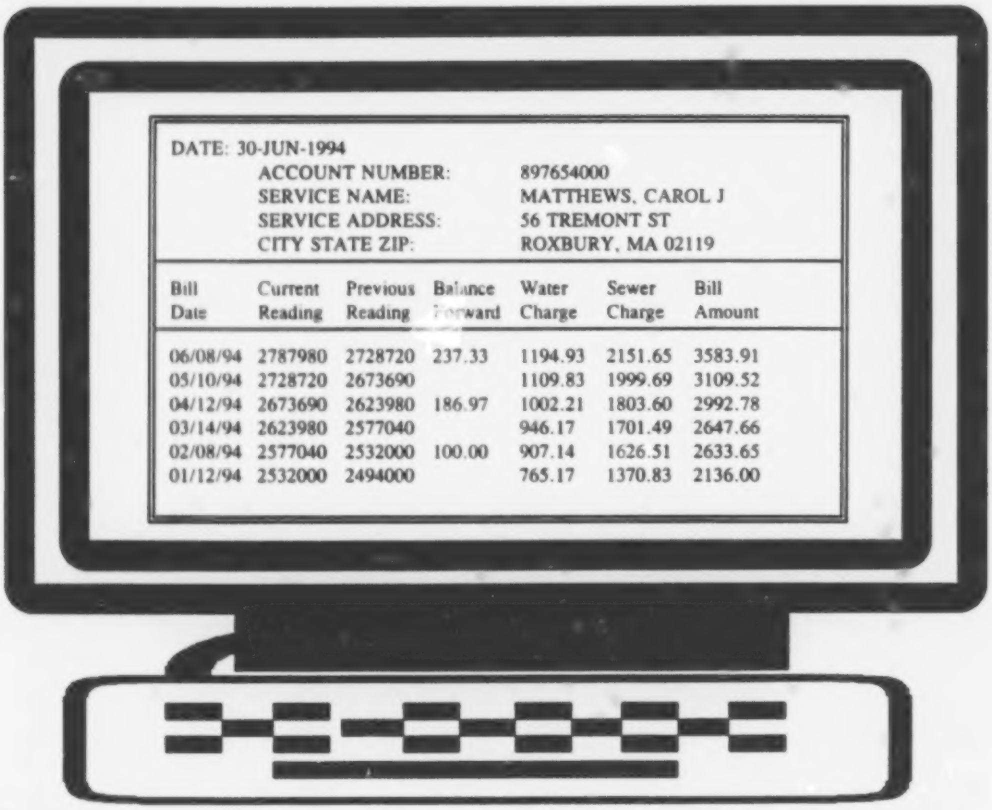
The ProTech students are assessed on the Work Sampler at the beginning of the program (usually in October) and again after they complete their work experience at the end of the school year. The WE consultant or the school's ProTech coordinator conducts the assessment, starting with a short group session addressing listening skills after which the students work on their own. The process takes about 60 minutes.

For a newly developed Work Sampler, the WE consultant scores the assessments and reviews the results with the students and teachers as a group. The consultant also discusses the results with the participating employers. Using a blank assessment, the consultant goes over each item, informing the employer generally how the students did and pointing out items that caused the group special problems about which the mentors and supervisors need to be aware. For example, students often have trouble with items relating to time, such as whether the 10:10 am to 10:35 am period available in an appointment book is enough time for a 40-minute meeting.

The results of the Work Sampler help the students, teachers and employers see what skills the students have before beginning the work experience and what skills need to be worked on at the workplace and in class during the year. The post-work experience assessment measures the skills gained. Those results tend to show major improvements in

Customer Service Representatives read computer screens to locate specific customer information. Read the **Computer Screen**. Then, answer the **Questions**.

Computer Screen



DATE: 30-JUN-1994

ACCOUNT NUMBER:	897654000
SERVICE NAME:	MATTHEWS, CAROL J
SERVICE ADDRESS:	56 TREMONT ST
CITY STATE ZIP:	ROXBURY, MA 02119

Bill Date	Current Reading	Previous Reading	Balance Forward	Water Charge	Sewer Charge	Bill Amount
06/08/94	2787980	2728720	237.33	1194.93	2151.65	3583.91
05/10/94	2728720	2673690		1109.83	1999.69	3109.52
04/12/94	2673690	2623980	186.97	1002.21	1803.60	2992.78
03/14/94	2623980	2577040		946.17	1701.49	2647.66
02/08/94	2577040	2532000	100.00	907.14	1626.51	2633.65
01/12/94	2532000	2494000		765.17	1370.83	2136.00

Questions

A. What is Carol Matthew's new reading on her March bill?

B. Carol asks the customer service representative, "If my water cost for June is $1194.93 and my sewer cost is $2151.65, why is my bill $3583.91?" What should the service representative tell Carol?

© Boston Private Industry Council and World Education, Inc. All rights reserved. October 1994.

skill level, with some students increasing their scores by 30 points.

Classroom Activities and Teacher's Guide. Teachers use the Classroom Activities and Teacher's Guide to incorporate the needed industry-related skills into their curricula. The guide contains classroom projects developed by teachers and WE curriculum consultants for an industry and is packaged in a three ring-binder. (See the chapter appendix for sample activities.) The projects weave contextualized skills identified in the OSAs into the content areas taught by the teachers. The guide is not divided into sections that stipulate "to be taught as part of the math curriculum" or "to be used by English teachers only." The projects are created and used in an interdisciplinary fashion across the curriculum.

For example, one research project for the ProTech Utilities and Communications program asks the students to gather information on employers. Students are required to do book-based research and conduct an informational interview of an employee. The students gather information on the history of the company, as well as personal work history information from employees. The report must also be word processed. Such a report is interesting and relevant to the students. Later in the year, the students use their company reports to produce a newsletter, with the help of the English and computer teachers.

The guide also includes case studies developed for use during the students' worksite rotations in their junior year. These are monthlong activities that use industry-specific vocabulary and information and illustrate the roles of workers in the field. The case study for students at New England Baptist Hospital takes the students through a total hip arthroplasty (replacement). It is used by the English and science teachers. At the end of the rotations, the group of students working with each employer make a presentation about their case study to the other ProTech students. (See the appendix for examples.)

Because the collection of projects in the Classroom Activities and Teacher's Guide come from teachers and supervisors who participate in OSAs, they are relevant and appropriate to the classroom. These projects, based on worksite experiences and field-tested by ProTech students, enhance, but do not replace, what is regularly taught in the classroom.

Skills Integration. Now, think back to the Work Sampler item again. What subject does the work task "read customer billing information on a computer screen and answer questions for the customer about the bill" fall under? Using a calculator to work with money amounts is obviously a math skill, but do math teachers necessarily know how to create spreadsheets? On the job, this task also requires the customer representative to write a short note to summarize the conversation, a skill an English teacher might teach.

If the math and computer teachers can work together, then the math teacher can teach the calculating involved in spreadsheets using material that is similar to what the students see at the worksite. The computer teacher can have the students generate the spreadsheets. The English teacher can have students write notes similar to those needed on the job and work on grammar, spelling and vocabulary.

A Structure for Communication

The OSA process helps teachers visualize career-based activities because they can picture the work environment and the employees who demonstrated the skills. Teachers need this circle of communication. Those without it don't have a structure to communicate with other teachers, employers and outside consultants. While educational strategies call for the fostering of cross-disciplinary communication among teachers, in the "real world" teachers often lack the time to accomplish this. The WE curriculum process empowers a core of teachers to use the circle of communication. This model works in both vocational and comprehensive high schools and with many types of industries.

The description on the opposite page of how ProTech works at Madison Park Vocational High School reflects the importance of communication between academic and vocational teachers and how much can be accomplished when such communication is facilitated.

Advice for Integrating Curriculum

Through our unique process for integrating vocational learning and work-related skills into academic classwork, we have discovered several important factors to keep in mind in integration.

Importance of Resources

The documentation developed for ProTech provides tremendous resources. The Interim Reports provide a foundation for the skills that need to be mastered. The Work Samplers give the student the opportunity to demonstrate skills needed for jobs in the industry while reading about the tasks and situations. The Classroom Activities and Teacher's Guides provide important learning material for high school students.

Employer/School Communication

Employers and educators need to maintain on going communication. Businesses should put teachers on their mailing lists to receive the companies' publications for use in their classrooms. Regular meetings for employers and teachers to discuss the students and the curriculum should be maintained.

ProTech employers within an industry usually meet once a month to discuss the program. In the Utilities and Communications program at Madison Park, teachers said it was important that they be included in the meetings and have an opportunity to exchange information with the employers about students and instruction.

Meetings that traditionally were held in a downtown location, more convenient for employers, are now held at the school during a teacher's free period. The time varies each month so different teachers can attend. Including the teachers as part of the monthly discussion greatly strengthened the program at this school.

Curriculum projects will be enhanced if employers are able to donate items for use in the classroom. For example, if telephone skills are important, an employer might donate obsolete telephones for the students to use for practice.

Teachers need to know about the day-to-day tasks involved in jobs with advancement potential. Employers who open up their worksite for the educators to "see" what the employers are offering

Madison Park Vocational High School

Madison Park Vocational High School is the school site of the ProTech Utilities and Communications program. When the program began in the spring of 1994, five enthusiastic teachers applied to participate. They worked after school, during part of the summer and continued to put in scheduled and unscheduled time during the school year. These teachers don't wait for a scheduled meeting to discuss ideas; they "catch each other in the hallway" and get a lot accomplished. For example:

When the English teacher gave a research assignment, the computer teacher taught the students how to use word processing software. When the computer teacher works on utilities and communications vocabulary, the English teacher reviews the grammar.

The math teacher works on problem-solving that applies to the electronics and electricity courses. When the teachers decided that students needed checking and possibly savings accounts to handle the money they were making in their work experiences, the electronics teacher scheduled Bank of Boston to come in and help the students open a no-fee bank account.

The administration at Madison Park supports the school-to-career ideology. Teachers have been encouraged to participate and have been given extra time for planning and meetings. In 1994, the schedule for the entire high school was changed to accommodate ProTech. Students have two days of academic classes and three days of vocational classes one week then, three days of academic classes and two days of vocational the next. Although the teachers don't see the students every day, both the English and math teachers have the students for a double period. The computer teacher sees the students for one period, but on the same days as the math and English teachers. The three teachers are able to work as a team because among them they have five periods they can share.

students will find the teachers being more responsive to the employer needs.

Training

Teachers need to be trained how to do things differently and they need the time and technology to implement the changes. A teacher without access to a computer or a copy machine cannot develop new and interesting material. Teachers need direct access to current magazines and books that bring research and hands-on learning together. They need the opportunity to change through a step-by-step process in which they become more comfortable moving from where education was to where education is moving. This process is slow and gradual. It requires school administration and employer cooperation and support.

Time and Resources

For a high school teacher who has always used a textbook and mimeographed quizzes, curriculum integration tasks like reading an article about a new vaccine, separating out the vocabulary, writing thought-provoking questions and weaving them into a biology class curriculum is very challenging. The skills used to do the creative work are different than those used to lecture. Learning is a part of teaching, but it should not be assumed that a high school teacher with one set of skills has the other set as well.

To act upon their new-found knowledge of the worksite, educators must be given time and resources to develop new skills as well as contextualized curriculum projects. This means allowing time for planning and meetings and paying teachers for travel and other expenses.

Start Small and Build

Classroom changes should start small and be built on successes. Ideally we try to write, field test and revise one curriculum project before a second project is developed and used. This gives everyone a chance to see results and build on them. A core group of trained teachers that has a good experience with this process is likely to persuade and train other teachers. Teachers training teachers will have a larger impact on institutionalizing the process.

Use Outside Consultants

ProTech has found World Education essential to link the classroom and the worksite. An outside consultant can help brainstorm ideas and keep the classroom projects on track. A consultant who has worked in both education and business can draw ideas from teachers, help them focus on the skills they want to teach, make the new material relevant and build on the strengths of the teacher and the students.

Broaden the Circle

School administrators and employers should encourage and help ProTech teachers to share ideas among themselves and with teachers not involved in ProTech. At one school, the ProTech teachers presented a session on the OSA and their integrated curricula during the school's in-service training day. Newer teachers were able to get advice and insights from their more experienced colleagues.

As the program expands it is also important that responsibilities be shared so that the skills and resources of all the participants can be used effectively.

Involve the Students

At some schools, students could participate in the occupational site audit. All the classroom projects are field tested by the students before becoming part of the teachers' guide. Remember to ask the students what they think. Look for behavioral changes. If students are coming to school more often, getting better grades, asking more questions, sharing more information and setting higher goals, they have become more active learners. When a student explains work-related information to a teacher and to the class, the natural order of learning becomes obvious.

Conclusion

In the natural order of life we combine listening, speaking, reading, math, writing, science, research, organizational, computer and technology skills into relevant everyday experiences. This chapter does not advocate only teaching pre-work skills, but it does advocate teaching about current technology, scientific discoveries, world issues as they relate to our lives, practical applications of math skills and well-written notes, letters and essays—in short, integrating real-world applications of material into academic classes.

High school teachers who were trained to use textbooks and lectures face a new challenge. They must teach young people to listen to information and respond appropriately, speak intelligently and read information relevant to the occupational field the students are interested in pursuing. They must also teach their students to apply math skills to practical tasks; write information that is clear, concise and grammatically correct; use research and organizational skills to become more active learners; and use a computer and other technology as tools to solve problems and work more efficiently. They must use integrated curricula to teach students to learn.

But the responsibility is not only with the teachers. Adults at the students' place of work—supervisors, mentors, co-workers and administrative personnel—must also think about and communicate the skills and competencies needed to succeed. These adults can make the difference between a high school student receiving the academic skills needed while they are a teenager or letting that student wait 10 to 15 years before acquiring the skills. Whenever possible, recruit parents to help, too.

This places tremendous responsibility on the adults. In addition to being "teachers" they must be excellent listeners. Students show they need guidance through their work, their questions, or their inability to do a task. Adults with initiative will listen and act by creating integrated lessons that teach the necessary skills.

Joan A. Ford is Youth Projects Coordinator for World Education. Since 1991, she has served as a curriculum consultant for ProTech, developing classroom teaching material for ProTech health care, financial services, utilities and communications and environmental services programs through the Boston Private Industry Council. Ms. Ford also has extensive experience in adult education and worker training.

For more information about any of the resources mentioned, please contact: Stuart Gedal, Director of Workplace Learning Programs, or Joan Ford, World Education, Inc., 210 Lincoln Street, Boston, MA 02111, (617) 482-9485

The following pages are samples from the Classroom Activities and Teacher's Guide developed for ProTech to help teachers integrate their curriculum. These pages are part of an essay writing curriculum unit that combines English and computer classroom activities.

ESSAY WRITING
(Three/Six Sessions)

GOAL

To write essays describing ProTech employers and to link the workplace with the classroom.

OBJECTIVES

Each student will:

- Discuss workplace experiences in the classroom
- Write essays that describe workplace experiences
- Use teamwork to either write or edit essays
- Develop interview questions to ask a mentor or supervisor
- Interview a mentor or supervisor
- Write an essay about his/her mentor or supervisor

FINAL STUDENT PRODUCTS

- Completed **Worksheet 1: My First Day at the Worksite**
- Completed **Worksheet 2: Three Important Things I've Learned at My Job**
- Completed **Worksheet 3: My Mentor's Career**

IDEAL PHYSICAL SETTING

A computer classroom is ideal for writing but **Worksheets** can be used in a traditional classroom

ADDITIONAL MATERIALS NEEDED TO COMPLETE PROJECT ACTIVITIES

- paper, pens, blackboard
- computers with word processing software

STUDENT/TEACHER LEARNING ACTIVITIES

1. The **Worksheets** in this project can be used in an English or computer class. Using a computer classroom would encourage students to make edits and corrections on their essays. Vary the writing approach to the assignment projects. Have students work in pairs or teams to write one group essay instead of always writing an individual essay. In both situations, have students proofread a classmate's work. Remind students that in the workplace, teamwork is key.

© Boston Private Industry Council and World Education, Inc. All rights reserved. February 1995.

2. The **Worksheets** do not necessarily need to be completed in a specific order nor do they all need to be written. Pick and choose those most appropriate for your students.

3. **Worksheet 1: My First Day at the Worksite** is designed to be used after a student's first day at work or for a job shadowing experience. Once essays are written, pick a quote from each student and list the quotes with the student's name and worksite on a piece of paper. Students will see what classmates thought of their experiences as well.

4. Distribute **Worksheet 2: Three Important Things I've Learned at My Job**. Students should do this assignment after they have been to work several times or job shadowed at a company several times. Have students list the three things they've learned that are important. Stress the idea that they may not have realized these things were so important before their ProTech experience. After students have listed three values, brainstorm what the students think are the priorities of the company. List key words on the blackboard. The words "teamwork", "punctuality", "accuracy", and "precision" should be mentioned. Go over the directions for the essay to be sure the students are clear about what to do.

5. **Worksheet 3: My Mentor's Career** asks the students to interview their mentor and write an essay about the mentor's career. This gives students the opportunity to be the interviewer. Have students brainstorm questions to ask. This assignment links school and work in a very positive way. Students may not know how to approach the mentor or may think an interview is a bother to the mentor. Remind students that mentors volunteered to work with ProTech. Also, most people will feel honored to share their experiences. This assignment should be given once a student/mentor relationship has been somewhat established.

© Boston Private Industry Council and World Education, Inc. All rights reserved. February 1995.

Total Hip Arthroplast—Case Study

Goal

The overall goal of this project is to give ProTech students medical information about a total hip arthroplasty and its implications for the patient while illustrating the roles of healthcare workers in the field.

Objectives

- Each student will read case studies describing an elderly person's total hip arthroplasty
- Each student will read and discuss vocabulary and medical terminology related to a total hip arthroplasty
- Each student will review specific hip exercises and try five of them
- Each student will read and interpret an orthopedic activity chart
- Each student will write a one-page dialogue between a total hip arthroplasty patient and a family member
- Each student will argue for or against an insurance company covering the costs of elective surgery
- Each student will create a chart of their own ADLs and mark those which they would be unable to do following a total hip arthroplasty
- Each student will discuss the role of healthcare workers involved in working with patients having total hip arthroplasty surgery

Final Student Products

- Completed Worksheet 1: Grandpa's Total Hip Arthroplasty
- Completed Worksheet 2: Grandpa's Pre-operative Evaluation
- Completed Worksheet 3: Grandpa's Surgery
- Completed Worksheet 4: Grandpa's Post-operative Recovery
- Completed Worksheet 5: Grandpa's Post-operative Life

Additional Materials Needed to Complete Project Activities

- Pens or pencils and paper

Student/Teacher Learning Activities

1. The teacher should read all five parts of the **Case Study** before beginning this project. The **Case Study** was written in a factual informative way. It gives a lot of medical information but leaves many questions unanswered. Teachers should expect to discuss many social issues (i.e. the elderly as the fastest growing segment of our population) as well as medical issues throughout this unit. Statistics related to the elderly are not included in this project, but a teacher could have students research this subject and add it to the project information.

2. The teacher may want to give some of the **Discussion Questions and Activities** as written assignments or homework. Teachers will find **Worksheet 1** question 8, **Worksheet 2** question 7, **Worksheet 3** question 13, **Worksheet 4** question 5, and **Worksheet 5** question 8, especially lend themselves to written work.

3. Each part of the **Case Study** should be enough material for one or two classes. This project should take five to ten classes to complete.

4. The teacher should lead discussions of all questions from a medical or science point of view.

5. **Worksheet 4** is the only worksheet that does not have a Fact Sheet. The Fact Sheets are part of the lessons. For the rest of the worksheets, the teacher could discuss the information either before reading or immediately after reading the **Case Study.** Many of the **Discussion Questions and Activities** will require knowledge of the Fact Sheets.

© Boston Private Industry Council and World Education, Inc. All rights reserved. December 1993.

CHAPTER 15

Case Study: Integrating Academic and Vocational Teaching

By Jeffrey C. Moss
Hoke County Schools
Raeford, North Carolina

In 1988, the vocational education department at Hoke High School served approximately 75 percent of the high school's students. However, surveys of local employers indicated that our graduates either did not have the academic competencies necessary to perform the jobs for which they were hired or were not able to apply their academic learning to the job setting. Feedback from the community college and the state four-year college system reported that, based on entry exam scores, 75 percent of all students required a remedial course in math or English.

In looking at how our students were taught, we saw that instruction and learning were disjointed. Many teachers lectured for the entire 55-minute class periods and within departments few teachers knew what their colleagues were teaching. The curriculum was book driven. Teachers relied on the book to move from topic to topic and students moved through the curriculum "chapter by chapter." Many courses that taught theory incorporated very little practical application into the instructional day. Courses stressing applied learning spent very little time discussing theory.

Today, the department serves 89 percent of the high school students and over 85 percent of the faculty integrate curriculum and instruction with other teachers. In the National Assessment of Educational Progress (NAEP) testing, our students' scores in mathematics, reading and science are rising. Students' improvement in the end-of-course tests for science and mathematics is greater for those teachers who provide more integrated learning activities for their students. Fewer students need developmental courses after leaving high school and employers are impressed with the quality of students they now hire.

Our Goal: Practical Academics

The High School Integrated Curriculum program was started at Hoke High School in Raeford, North Carolina, in 1988 to improve the academic instruction of students enrolled in vocational education. We also wanted to provide students following a four-year university career path with more practical applications of theory. The design of the program called for vocational and academic teachers to jointly plan, coordinate and instruct competencies from all disciplines.

Hoke County is a small, but rapidly growing (population approximately 25,000), rural county located in the southeastern sandhills of North Carolina near Fayetteville. *The county has five major industries that employ most of the county's hourly workers. Hoke County Schools serve approximately 5,500 diverse students in one high school of 1,350, two middle schools, six elementary schools and one alternative school.*

The high school, with 1,350 students, has a certified faculty of 98 teachers and administrators. Twenty-one of these are in the vocational department. The population of the faculty mirrors that of the students.

The teachers meet during the summer months to align their curricula. During these meetings teachers identify similarities among the competencies and objectives taught. These similarities are correlated to North Carolina's Standard Course of Instruction within each discipline. Teachers then develop joint teaching activities that cross curricula. This allows teachers to use a variety of instructional methods in their classes. The joint activities facilitate cooperative teaching, peer teaching and the sharing of resources between programs.

Why Curriculum Integration?

The major purpose of integrating the curriculum is to increase student achievement. Learning must be relevant to students for them to retain information. Through the integrated curriculum, students make the connections between school subjects and real applications. They see the relationships between abstract academic content, workplace activity and continued learning. For example, in applied simulations, students can apply the concepts of trigonometry without ever taking the course. Teachers can instruct the students in the methods required to solve the problem and then tell the students they used trigonometry.

We believe there are four major reasons to integrate vocational and academic education.

The first deals with societal needs, including the need for more capable workers, the need for social justice (achieved partly by reducing tracking), the need for productive citizens and the need for social order (achieved by reducing dropouts).

The second reason is teachers' needs for job security and satisfaction. Integrating curriculum—involving new content, teaching methods and arrangements—meets teachers' needs for intellectual stimulation. The need for collegiality is met by team planning, team teaching and staff development. Integrating the curriculum overcomes the isolation of teaching and gives teachers the support and security often lacking in their jobs. As teaching becomes more relevant and students' learning more obvious, the teachers' need to see students learn is fulfilled.

The third reason is to fulfill students' needs, including the need to meet graduation requirements the need to mix with a heterogeneous group of students, the need to acquire job skills and the need to see relevance in learning.

Lastly, integration meets administrative needs. Data supporting student achievement indicates that integrated curricula helps schools be effective. In Hoke County, curriculum integration has led to increased graduation rates and decreased dropout rate and juvenile delinquency.

How We Made it Happen

The High Schools That Work Grant

In 1988, the North Carolina Department of Public Instruction advertised a grant for a project titled, "Basic and Vocational Education." The project was part of the Southern Regional Education Board's *High Schools That Work* program. It outlined a program that would involve academic and vocational teachers working, planning and instructing together to teach similar competencies.

Originally, five of us from Hoke County (one home economics teacher, one mathematics teacher, one business education teacher, one guidance counselor and myself) outlined a proposal for this project. At the initial stage of planning, I was a high school teacher coordinating special projects and conducting job placements for all vocational students.

Our first step was to gain administrative support. The superintendent at the time was supportive, as was the principal. Since 1988, each time a new administrator was hired, we made it a point to invite him or her to visit the programs and to convince the administrator that what we were doing was in the best interest of our students.

We received the grant and began our work. This initial group of teachers came to consensus on a philosophy about learning. We believed that all students are capable of success if instructed in the learning style that suits them best, whether hands-on, theoretical or some combination. We committed ourselves to actively engaging the student in the learning process.

Curriculum Awareness

One of the initial barriers we had to overcome was teacher turfism. Teachers were comfortable instructing students as they had for the past 20 years. Some teachers did not trust each other, some did not know each other and many thought that only they could instruct their competencies in class. Teachers within departments seldom met to discuss the instructional direction for any course.

To address this problem, one of our first activities was to have teachers from all departments meet together, with at least one representative from every discipline required to attend. Using teacher stipends as motivation, we organized a two-week planning meeting during the summer months after all students finished for the school year. During this time, teachers worked together with their curriculum guides, textbooks and other instructional materials to match competencies and identify potential areas of curriculum integration. Teachers were informed of the project's focus and what we hoped to accomplish in Hoke County through these changes.

The first week was spent discussing what each person taught. The discussions centered on topics of instruction, instructional strategies, equipment or supplies and the time of year that instruction took place. Each teacher presented a brief overview of departmental courses.

During the second week, the teachers began to develop an integrated curriculum guide. The guide correlated each competency and objective from one discipline to those of all other disciplines. The reasoning behind this activity was twofold. First, this gave all teachers an idea of what was being taught in all other classes. Teachers learned what strategies were being used, when material was taught and whether they could share lab equipment or other resources to accomplish the same objective. Secondly, teachers that were somewhat apprehensive had this document as a reference when planning integrated activities.

As teachers developed this guide, it became obvious that many competencies were taught by more than one teacher. Horticulture covered almost the entire plant science component of biology. Automotive technology and electronics addressed many parts of the physics competencies. Drafting and geometry made a perfect match. Chemistry, food science and commercial foods all taught similar competencies. The English curriculum was spread over all other courses throughout the high school. Teachers were amazed to learn that they were not the only person covering "their" competency.

This curriculum awareness was good for the administrators as well as the teachers. Now administrators could plan and conduct in-service activities jointly with academic and vocational teachers. Teachers could use the in-service time to connect topics of instruction that were similar in nature throughout the school year. We did not provide common planning time or periods for teachers during the school year. Teachers reviewed activities and revised the curriculum guide with new competencies each summer. The review and revision technique kept them abreast of any new strategies being employed for the upcoming school year. The summer planning meeting also served as a time to plan a strategy for integrated activities or staff development that would take place in the school year.

During the school year, the teachers continued to meet after school about once a quarter to touch base and inform each other of their activities. The best planning occurred informally when teachers passed each other in the halls, ate lunch at the same table or sat together at sporting events. Social interaction enhanced planning and opened classroom doors. We found that once teachers had an awareness of what every other teacher was doing in the classroom, joining together became second nature.

Employer Involvement

As we began to integrate the curriculum we wanted to be sure it met the needs of local employers. We invited local business representatives, including personnel directors, shop foremen and shift supervisors, to an employers' banquet to meet with the teachers. In a very open panel session and question-and-answer period, teachers asked the panelists specific questions about their skill requirements. From the responses, the teachers developed a list of what county employers were looking for.

We now hold the banquet about every three years to update the list of local competency needs. The three-year period appears sufficient with regard to changes in employment competencies and it reassures teachers that the curriculum is not going to be changed constantly. Employers do notify the school of projected skill changes between banquets.

Team Teaching

Between 1989 and 1992, the core of teachers involved with curriculum integration grew to about 30, approximately one-third of the faculty. For the 1992-93 school year the administration decided to expand the involvement by instituting a voluntary team teaching program. This was the first time we had tried team teaching. The teams were charged with designing and conducting joint projects during the school year.

Fifteen teams were organized with six to eight teachers on a team. Each team was chaired by a teacher with experience in integrated teaching. Teachers chose their own teams. They were given a month to submit a list of team members to the administration, which drew up the teams. The only requirement was that the teams be split 50/50 between core academic and vocational courses. Teams agreed to conduct from three to five integrated activities during the year, each activity lasting at least one class period.

Teams met biweekly. Each team designed activities that ranged from total student involvement to only a select group from each class. Actual instruction was shared by all parties.

During the 1993-1994 school year the administration decreased the number of teams to six, increased their size to 15 members (assigned by the administration) and made participation mandatory. This approach did not work well. Teachers felt pushed into something that had been fun the previous year. In 1994, we went back to the original concept of allowing teachers to choose whether they wanted to participate in integration activities and choose their own partners.

In the 1995 school year, we instituted the requirement that teams must have no fewer than five teachers, from areas with common competencies, with at least one teacher of a vocational course and one of a core academic course. For both 1994 and 1995 we have had about 11 teacher teams.

Teachers were given the opportunity to provide suggestions and improvements every year. "Teachers as leaders" was the concept we emphasized throughout our school system. We wanted teachers to realize that they control what happens in their classrooms. Our 10 guidelines for team teaching are in the chapter appendix.

In-Service Training

In-service activities were provided in various forms. Teams of teachers were chosen during the school year to attend conferences out of the area and jointly plan activities afterward. The local in-service topics were decided by the teachers. Selected topics included applied instructional strategies, reading in the content area and pacing guides, just to name a few. Staff development time was spent developing integrated lessons and thematic units.

Staff development sessions provided a time for teachers using different curricula to view and discuss areas of alignment and instructional strategies. From these meetings teachers developed integrated lessons. These lessons followed a similar pattern or framework across the school system and included such detailed information as materials needed, maximum number of students, time of year and place for instruction.

Lesson Design

Integrated lessons were designed by a minimum of two teachers and a maximum of 15. These lessons had to include one competency from each area. The competency had to be related to both areas and assessed by both disciplines.

For example, students in chemistry must learn about nutrients and students in home economics must learn about nutrition. An objective in the chemistry competency on nutrients is to break down the nutrients inside food. An objective in the home economics competency on nutrition is to understand the nutritional content of food. The objectives matched closely enough that the teachers could get together to plan joint lessons that satisfied both objectives.

As a result, students in both classes studied breakfast foods. One lesson involved analyzing five types of cereals. Using the nutrition values listed on the side of the packages, students prepared graphs of the sugar, salt and vitamin content of each cereal. They then prepared samples and tasted them. For another lesson, the students analyzed the nutritional value of other breakfast foods, including bacon and eggs, pancakes and french toast. For both lessons, the students first prepared paper graphs of their findings and then transferred these to the computer.

Integrated lessons took various forms. Teams of teachers carried out the lessons that integrated more than one department. If a topic required the support of just one other teacher, then the lesson was carried out by the two teachers. On a few occasions, only the sharing of equipment or facilities was necessary to carry out the instructional lesson plan.

The projects could be long term and thematic, based on one of four themes—economics, the environment, the community and commerce—or short term. The rationale behind the thematic approach was for students to see the connections from class to class. Teachers also needed to see the connecting activities that were possible with the thematic approach.

One thematic project was a newsletter to be shared with the Chamber of Commerce and community leaders. It involved four classes working together: Government and Economics, English, Business and Office and Algebra I. Senior students posed questions to a panel comprising the county manager, school superintendent, Committee of 100's president, an economic developer, representatives from public service agencies and business and industry leaders. Students worked together to prepare questions for each individual. After the question-and-answer period, students broke into groups to organize their newsletter. Each group chose a different topic and wrote an article for the newsletter under the direction of the teachers.

Where We Are Today

Team Teaching

Most of our teachers now define the concept of integrated learning to include integrated teaching. In 1991, fewer than 25 percent of our teachers were involved in integrated teaching. During the 1993-94 school year, over 85 percent of our teaching staff engaged in at least one integrated instructional activity during the school year. Because of the number of transient teachers at the school (from Fort Bragg), we may never reach 100 percent.

Each team reviews its activities at the end of each school year. A representative of each team presents that team's recommendations for new strategies and activities to the participants at the annual summer planning session. The faculty now has a 4-inch thick binder identifying similar competencies and objectives in different subjects. The teachers also have an extensive collection of activity sheets for integrated projects.

Teacher Case Studies

The following two case studies of teachers in Hoke County demonstrate how individual teachers have worked to integrate their curriculum.

Teacher One. Dan is an agriculture instructor. He teaches topics such as plant science, ratios and percentages, writing and estimating skills and technological advances in agriscience. Three years ago, he and the administration decided his program needed a facelift. We determined that an updated and more challenging curriculum, better pre- and post-assessments and integration with other subjects would strengthen his total presentation. After looking over existing ideas and concepts, we correlated all components of his curriculum with other relevant subjects.

The strongest correlation was with biology. Teachers from the science department met with Dan to discuss what was being taught and how they could work together to plan and coordinate their instructional strategies. They planned approximately five integrated projects during the first year. These projects dealt with: cross pollination, plant propagation, soil samples, deciduous plants and tissue cultures. The times when each of these units was taught was correlated with the season of the year when students could go outside and perform activities. Students went to the agriscience classroom to conduct relevant experiments. The biology and agriculture teachers taught each project as a team.

The integrated project for plant propagation was to compare how light, water and other outside factors influenced the growth of plants. The students took root cuttings of various plants, planted the cuttings in control and experimental groups for each outside factor and charted the growth progress of the groups. They then prepared a comparison, from their research, of the impact of the different factors on plant growth.

The project on soil samples involved the students collecting and comparing soil samples. Students first collected samples from various places on campus and analyzed them for acid level and sodium content, among other elements. They then collected samples from off campus, analyzed them and compared them to the campus soil. Students also conducted various experiments such as adding lime to samples to determine the effects on the level of acidity.

The competencies in Dan's curriculum also correlated with algebra and geometry classes, English, Principles of Technology and the trade and industrial courses. The table on the next page presents examples of the resulting projects.

These teachers correlated their competencies objective by objective. They then created "pacing guides" or teacher-developed time frames for teaching the objectives. For example, the course on deciduous materials was rescheduled to the fall from its former spring time slot.

Dan experienced a falling student enrollment for the first two years as the requirements of his course were strengthened. A teacher was let go as a result of declining enrollment. Now the agriculture department has been built back up to two teachers. Students in the top five percent in terms of ability are taking agriculture classes.

Teacher Two. Debbie is a high school English teacher. She mainly teaches English to juniors. She has worked with more than 10 vocational teachers to team teach and jointly assign projects. These projects emphasize writing and presentation skills, using research papers centered around content relevant to the vocational area. The vocational teachers grade the technical merit, while Debbie evaluates the grammatical content. Students have the opportunity to learn relevant vocational material, gain support from more than one teacher and have free time by satisfying writing requirements for more than one class.

This school year, Debbie helped with the videotaping of all major industries in Hoke County. Her students developed questions and interviewed business and industry leaders. The students questioned training techniques, education requirements, salary ranges and estimation of demand for different positions.

Students then created tapes (called "Employment in Hoke County: What Are the Requirements?") highlighting similar positions within different local businesses. The tapes were condensed into 10- to 30-minute presentations. Teachers and students can check them out at the high school's career center.

Longer Class Periods

We implemented block scheduling in the 1994-95 school year. This provided for four 90-minute class periods a day for a 90-day semester. Classes used to be 55 minutes long. Students now earn eight credits a year instead of six. The extra instructional time has helped teachers implement integrated projects and do team teaching.

Examples of Integrated Projects

Department	Topic	Activities	No. of Students
Agriculture and Mathematics	Estimation, Ratios and Percentages	Calculate how much chemical you would spray on an acre of planted material	55
Agriculture and Science	Deciduous Materials	Jointly discuss and experiment with trees, shrubs and flowers	55
Agriculture and Mathematics	Shapes, Designs and Angles	Design and construct a mist system; outline a landscape design with material costs	55
Agriculture and English	Grammar Usage	Develop, outline and present a landscape design to prospective home owners	55

Higher Standards and More Applied Learning

Along with integrating our curriculum, we infused higher academic standards into many courses. The vocational department began introducing more technical-based courses such as architecture. For example, we started our own landscape design class in which students learn AutoCAD and LandCAD to design and present landscaped designs. Teachers also received training to upgrade their computer skills. It reached the point where the high school technical courses were at a higher level than was being taught in the community college's second year. Since the community college no longer had to teach what should have been taught in high school, it was now able to offer higher level instruction.

In the academic area, where classes had been almost all theory, teachers have pulled competencies and objectives from the state's applied learning Standard Course of Instruction. They have integrated these into their curriculum and selected materials and methods they wanted to use.

Extra Help for Algebra I

As we upgraded our academic standards it became obvious that students needed extra help to succeed. We developed a program that targeted algebra students because we felt that these skills were the basis for developing critical thinking and because it was a graduation requirement. Short Term Achievement and Reward (STAR) began in 1992 to better meet the needs of Algebra I students. The program was designed by math teachers who were concerned with low scores on end-of-course tests in algebra.

The STAR program divides the Algebra I curriculum into four nine-week grading periods with a 20-day summer school. A weekly test is given. Students who do not score 70 percent on this weekly test are required to attend a "second chance" class the following week for reteach/retest instruction from one of the regular algebra teachers. Student assistants are employed when the class numbers are large. Students may become assistants by passing a competency test and they are paid for their time.

The skills giving the most difficulty are retaught and an alternate copy of the week's test is given. When a student scores 80 percent or better on the alternate test, attendance is no longer required that week. Students who miss the weekly test are also required to attend "second chance." Three of our STAR teachers conduct the class one day each week.

STAR students are given weekly grades. Progress reports are given every three weeks. The weekly grades along with the cumulative nine weeks test score are averaged to determine the final nine weeks grade. After the second nine weeks there is a possibility that some students may have failed the first nine weeks twice. A "third chance" class is offered for these students with computer software to provide immediate feedback and recordkeeping on a daily basis. A parent/student contract is required to promote success in this class. "Third chance" meets five days per week with a teacher assigned to work with this class only.

At the end of the first nine weeks, STAR teachers meet and place all of the students who failed into one class. The students who pass are balanced among other classes. After the third nine weeks, the first nine weeks' material is taught in "third chance" while the rest of the curriculum is taught in separate classes. Students who fail the fourth nine weeks are placed in summer school to meet two hours and 15 minutes per day for 20 days.

These strategies provide students with every opportunity to take responsibility to pass Algebra I. The success rates show that students do want to learn and that, under positive circumstances, they will make the effort to pass. The number of students scoring above the 60th percentile on the math end-of-course test has increased 38 percent since 1992. The number of freshman passing Algebra I has increased by 30 percent and the number of students receiving no credit has decreased by 79 percent.

Work-Based Learning

Our integrated teaching efforts also provide a link between school- and work-based learning. Vocational and academic teachers look at the competencies required for the occupations in our apprenticeship and cooperative learning programs. They then work together to incorporate activities that center on the specific occupations.

For example, in our trade and industrial program we have a course that is a joint venture with Burlington Industries and the high schools' textile program. Students enter the textile program as sophomores and learn the basics of the textile industry. Part of the course is touring the local Burlington plant every week until all departments have been viewed. In the second year, juniors take a two-hour block class. Students again visit the plant to shadow employees performing certain occupations. Shadowing helps students to decide on a particular field of interest at the plant. Burlington employees serve as guest or volunteer instructors at the high school every month. During the final high school component (senior year) pairs of students share a shift at the plant and are paid Burlington wages and benefits. The plant employs each of the seniors in the occupation of their choice. The students follow a training plan outlined by the high school instructor and the plant training supervisor.

Outcomes

Our scores have increased over the past four years on end-of-course tests and the National Assessment of Educational Progress (NAEP). This assessment scores the reading, mathematics and science levels of our senior students. The NAEP is given every three years to the graduating vocational completer students. The chart below shows our improvement in all three areas from 1990 to 1993. We will give this assessment again in the spring of 1996.

Other indicators of our success are the results of our North Carolina end-of-course tests, which are given yearly to all students enrolled in that class. These scores are also on the rise.

Other benefits we have realized from our efforts include:

- A higher percentage of vocational and academic teachers now spend more time integrating and coordinating lessons.
- Teachers have gained a better understanding of the total school curriculum.
- All vocational teachers and over 80 percent of academic teachers meet to make plans concerning vocational students.
- Teacher attitudes have improved. Teachers have realized they are teaching many of the same competencies and are more willing to work together.
- Teachers know they have a common goal to help students become lifelong learners and workers. They understand that the traditional curriculum doesn't prepare career-bound students for further employment or study.

Advice For Curriculum Integration

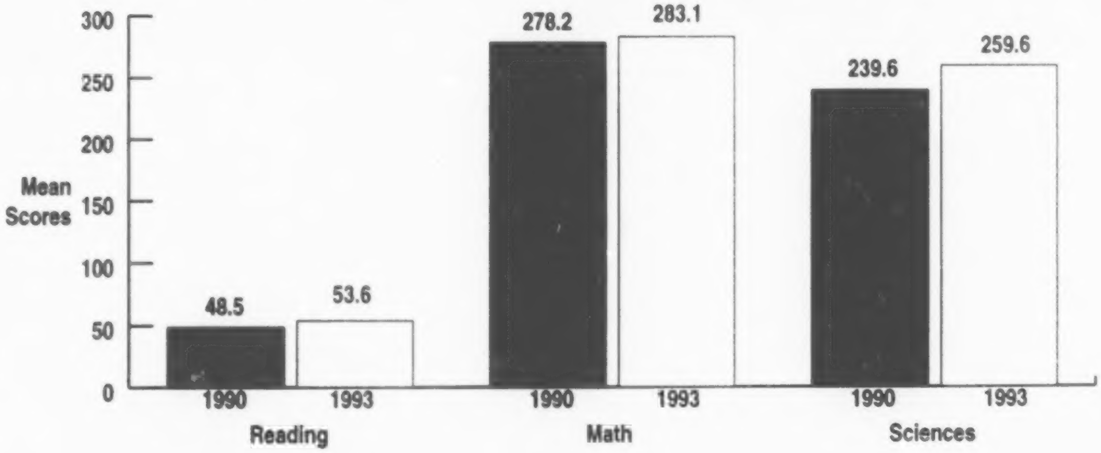
Take your time. Instead of jumping right into integrated lessons, we concentrated first on increasing teachers' awareness of the curriculum and similar competencies through the summer planning sessions. We wanted the faculty to see how integrated teaching activities worked with a small number of interested teachers before expanding the team teaching activities.

Give teaching teams as much flexibility as possible. Our only stipulations were that the team members be equally divided between core and elective courses and that at least three projects would be done jointly. The content and length of the projects (short term or thematic) was decided by the teachers.

Hold planning sessions during the summer. The teachers appreciate having two weeks in which they could just concentrate on the curriculum. We use local education funds and other monies to pay the participants $50 a day during the session. Two people from each department participate – one who attended the previous session and a new participant.

Allow teachers to freely share equipment—but keep track of it. We find it helps teachers try new ideas and work together if they

National Assessment of Educational Progress Results



feel free to carefully use equipment, such as blood pressure cuffs, from other departments. Our teachers now constantly borrow equipment from various parts of the campus for their classes. We have reached the point of considering all the equipment, facilities and supplies as being there for the students, not just for the academic or vocational teachers.

However, in granting this freedom, someone needs to be responsible for keeping track of what equipment exists and whether it is in good shape or will need to be replaced soon. We recommend doing an inventory of all equipment and other fixed assets at least at the end of each school year.

Conclusion

Integration of academic and vocational education creates a comprehensive education system built on the strengths of both. It engenders a partnership that brings all educators together to increase student learning. Integrating the curriculum and providing work-based learning helps students become lifelong learners by understanding the correlation of all subject areas with real work or life situations.

There are many ways to integrate academic and vocational education, but all are relatively new. Even the longest running innovations are barely five years old. We have viewed integration as a dynamic process in which teachers move from small changes to more thorough reforms. The most important step in integration is simply to begin. As with many didactic methods, new forms of integration will emerge that make the original approaches obsolete.

Our work in Hoke County has benefited students, teachers, business leaders and community members. Our goal is to have a seamless education system with no distinction between academic and vocational education. We hope to have all courses teach skills that incorporate workplace demands as listed in the workplace development criteria, SCANS report and Educational Goals 2000. We can only improve as we monitor and modify each school year.

Jeffrey C. Moss is Assistant Superintendent for Curriculum Instruction and Technology for Hoke County Schools. He has been instrumental in the implementation of the SREB High Schools That Work program at Hoke High School in Raeford, North Carolina, since 1989. Since its involvement with the SREB, student achievement scores and successes have improved dramatically.

Seven Steps To Integrating Academic and Vocational Education

From our experiences we have developed a seven-step approach to integrating academic and vocational education. Listed below is the outline we follow to implement new concepts and theories.

I. Orientation and Awareness
  a. Superintendent and Board of Education
    1. Presentation at board meetings
    2. Mini-seminars for these administrators
  b. Other Administrators
    1. Leadership meetings
  c. Teachers and Staff
    1. Staff development
    2. Employer and teacher banquets
    3. Teacher meetings
  d. Community and Parents
    1. Parent-teacher organization meetings
    2. Parent universities (mini-workshops generally scheduled at night for the entire community)
    3. Civic organizations

II. Gaining Support from Administration
  a. Outline reasons for integration of curriculum: test results, achievement in other subjects.

III. Identify teachers to form a core group that will buy into the concepts
  a. Monthly meetings
  b. Identify the driving forces behind the movements

IV. Identify Similarities Between:
  a. Curriculum
  b. Teachers
  c. Teaching strategies
  d. Students

V. Outline the Implementation Plan
  a. Listing of activities
  b. Combining of curriculum
  c. Sharing of students

VI. Restructure the Master Schedule
  a. Block similar classes
  b. Group planning time for teachers

VII. Rediscover and Reinvest
  a. Review process and progress
  b. Revise parts that are not working
  c. Revitalize teachers and their interests

Guidelines for Team Teaching
Hoke High School

❶ Integrate with people/subjects you are most comfortable with first, then branch out.

❷ Start small and simple, but start.

❸ Correlate competencies before beginning any team teaching.

❹ Plan with a focused mind. Eliminate interruptions or distractions.

❺ Identify weak areas of the curriculum, difficult concepts or conflicting ideas to integrate, to reinforce learning and to connect the curriculum.

❻ Be flexible with schedules and time frames to facilitate integrated projects.

❼ Meet weekly, at least, and keep notes and records of meetings. Select a secretary.

❽ Make team teaching interesting and enjoyable for teachers and students.

❾ When possible, involve students in planning projects.

❿ Make learning meaningful and relevant. Do not focus on inconsequential elements.

Connect the Curriculum.
Make Learning Relevant!

CHAPTER 16

Developing Career Majors

By Randol Walker, Roberta Walker and Nancy Dutton
Topeka West High School and Kaw Area Technical School
Topeka, Kansas

There's an old saying, "If it ain't broke, don't fix it." This expression sometimes typifies the attitude of school communities in the face of change. It certainly was a prevalent attitude among teachers, administrators and parents connected to Topeka West High School (TWHS) and Kaw Area Technical School (KATS) when rather radical change was suggested late in the fall of 1991.

As we will explain in greater detail, at the time we began our reforms many observers of these two schools would have said that nothing appeared "broke." Yet a few of us persisted in trying to fix a system that we believed was not properly serving many students. Through persistence and creativity, a system of career clusters was put in place, integrated with a tech prep curriculum option that gave all our students—not just the visible top percent—better direction and potential.

Initiating Change

Background: Topeka West and KATS

To appreciate the reactions of teachers when the change was suggested, it helps to understand the history of these two schools.

Topeka West High School is a school with a reputation for excellence in teaching as well as for student achievement. In 1984, Topeka West was recognized by the US Department of Education as one of the top 112 high schools in the nation. It was also the first school in the Topeka area to be honored as a "school of excellence." The curriculum offers 12 advanced placement opportunities for students and 10 honors courses, with a college-level course in humanities taught onsite by staff from Washburn University, a local four-year college.

Throughout its history, there has been extensive parent involvement with and support for the school. Topeka West was generally perceived as a college prep high school by its community. Eighty-five or 90 percent of West freshmen and their parents expected they would go to college (which meant that Kaw Area Technical School was significantly underused by the TWHS student body).

It is not uncommon for graduates of Topeka West to attend Ivy League colleges and universities. Last year a graduate became a Rhodes Scholar, two seniors received appointments to military academies, three were National Merit

***Topeka West High School and Kaw Area Technical School are located in the suburbs of Topeka, Kansas**. Topeka West High School opened in 1961 as a 10-12 high school but has served Grades 9-12 since 1980. In 1991, 1,225 students were enrolled. Kaw Area Technical School offers 30 vocational programs and serves students from 15 districts that include 18 high schools, among them Topeka West High School. In 1994, KATS served 423 high school students and 625 post high school students. It has historically worked quite successfully with a number of Topeka industries in educational efforts with their employees.*

scholars and over $1.5 million in scholarships were won by a graduating class of 230. Statistics tell us that 72 to 77 percent of graduates go on to college. On the surface, one might ask "what could be better?"

Kaw Area Technical School has also been recognized for outstanding programs, excellent graduate placement in industry and solid enrollment in the programs it offers. Why would these two quality schools want to change? A closer look at data provides some answers.

Waking Up to the Problem

In late 1991, Topeka West was involved in a North Central Association accreditation procedure required of all Kansas high schools. As statistics from this evaluation were scrutinized and disaggregated by race, gender and socioeconomic status, educators were able to more closely examine school achievement.

It became evident that only the upper percentage of students were really achieving high standards and that the middle 50% of students were simply "getting by" with general studies courses. These students were not working to their potential as they progressed through school. In fact, they were simply choosing courses that were easy or convenient—courses by their favorite teacher, or maybe the easiest teacher, or courses that fit the schedule of their friends with special attention to matching lunch schedules!

We also discovered that, although West High had an outstanding, challenging college prep program in place (as do most high schools), a large number of students simply felt that all they had to do was attend high school for four years, take the minimum requirements for graduation and they would go away to college and be successful. Although well over 70 percent of our graduates regularly enrolled in college, a much lower percentage graduated. Further, those kids who were unsuccessful in college because they didn't have the academic preparation were equally unprepared for the world of work. College is a very expensive career exploration program.

It became clear to many teachers and administrators that a significant number of students were not being served as well as we had all assumed. In late 1991 and throughout spring of 1992, discussions about the problem and the need for change became commonplace at department chair meetings, faculty meetings and parent meetings. The question became not "Why should we change? but "What needs to change?"

Many people associated with the schools saw the need for improvement, but many more did not. Our task was to convince our staff, students, community and the Board of Education that change was necessary and that what we were proposing was the correct change.

Becoming a Tech Prep Pilot Site

In fall of 1991, representatives from Topeka West, Kaw Area Technical School and the Kansas Department of Education met to discuss how the two schools could become partners in improving education opportunities for all area students.

By January 1992, the State of Kansas selected Topeka, specifically Topeka West High School and Kaw Area Technical School, as one of two sites to pilot a tech prep program in Kansas.

The Southern Regional Education Board's *High Schools That Work* (HSTW) program had contacted the Kansas Department of Education and expressed interest in becoming involved with the schools taking part in the pilot tech prep program. From the beginning of our reforms, then, the HSTW program served as a model for change in our schools and provided advice and support for implementing those changes.

Our general goals were to redesign our fundamental curriculum, change teaching styles and delivery techniques and provide more of a career focus throughout high school so that all students would be more engaged in school and better prepared for life afterwards. Involvement with the HSTW program provided us with the more specific goal of boosting the academic achievement of the middle 50 percent of our students (HSTW recommends this goal to all schools with whom it works). We broadened this goal to improving the academic achievement of all our students. We also had the goal of encouraging more students to use the excellent but underutilized career-focused programs at Kaw Area Technical School.

The school administration of both schools believed that if these changes worked at West, they would work anywhere, because there was so much resistance in our community to teaching workforce skills in addition to college prep, particularly if they were taught at the vocational school. Attending a vocational school did not fit the vision most students and their parents had of secondary education. Many parents' reactions were, "It's okay for your child but not mine. My child is going to college." We knew it would be very difficult to do anything that might seem to threaten the American dream of going to college.

Involvement with SREB

In the summer of 1992 and again in 1993, staff from Topeka West and KATS attended SREB's national conference, which further strengthened our involvement with HSTW. At the 1993 conference, SREB invited the two schools to become one of 19 Advanced Integration Model (AIM) sites created to develop long- and short-term curriculum integration models that can be shared with other schools. KATS and Topeka West became an AIM site in fall of 1993, with a focus on developing models of integration within the general career area of transportation. This gave a team of staff from the schools release time to work together and attend workshops that developed their expertise in writing integrated curriculum.

Developing Career Clusters

Eliminating "Junk Food" Courses

We proposed, as SREB suggested, to develop career clusters that would give students a focus. It should be kept in mind that at the same time, also at the suggestion of SREB, we were dropping what we viewed as "general track–junk food" courses and lower level or basic courses and adding applied courses and others that fit our vision of tech prep.

In eliminating courses that lacked challenge and focus, we asked teachers from all departments to look at their curricula and see which courses seemed to not fit with the rigorous applied academic focus we were adapting. In general, we dropped all remedial courses and some particularly easy science courses that students seemed to be taking mainly because they didn't require a lab.

It wasn't easy for teachers to "let go" of their general track because the perception was that students in these courses couldn't make it in higher-level courses. This particular discussion was ongoing for an entire school year. We had to stress that we were moving toward "applied teaching" with hands-on teaching, cooperative learning techniques and other strategies to hook students' interest in learning. And we stressed our higher expectations for all students, especially those who fall into the middle majority. When it became understood that these students would not be abandoned, but rather they would receive higher-level course work taught in an applied manner, teachers accepted the challenge to throw away old lesson plans and start over.

It was still the mindset of many parents, students and staff in the West community that "it wasn't broke." We had, therefore, to develop a model that blended current practices with the changes we wanted down the road, a model that was not so radical as to be unacceptable.

The development of clusters began in the spring of 1993 after an SREB visit to Topeka West and Kaw Area Technical School. The visiting team strongly encouraged Topeka West to redesign its curriculum into five to seven clusters. They convinced us of the advantages of this model for our students (see box on the following page for the purposes we envisioned clusters would serve).

Exploring Cluster Models

We used a large, widely representative steering committee—composed of many teachers, administrators, students, parents and others—to consider possible clusters and come up with a cluster scheme. During late spring and into the fall of 1993, the steering committee struggled with what a cluster should be, how many there should be and what they should look like. That very large committee worked for a year and a half on myriad concerns regarding the development of career clusters and also a tech prep model for TWHS-KATS. The sheer size of the committee slowed the decision-making process.

Eventually we realized that while it is important to have input from a variety of groups, our steering committee was simply too large to make day-to-day decisions. Therefore, in the interest of time, a subcommittee of a TWHS associate principal, TWHS curriculum coordinator and the school district's tech prep coordinator, who also worked at KATS, were given the task of developing proposed clusters. They enlisted the assistance of the TWHS business department chair, who had the computer expertise to put these ideas and models into a usable format.

That fall, the subcommittee developed a number of proposals for clusters that were reviewed and modified several times by a larger committee that included the principal of TWHS and the director of KATS, some members of the original steering committee, TWHS department chairs and a parent committee. Naturally, with this larger group there were many differences of opinion about what we should do to educate our children. During a number of these meetings we half-jokingly told people to check their guns at the door. We continually encouraged everyone involved to get past departmental turf issues and make sensible decisions that were best for our kids. In general, our staff was very professional in their discussions.

Choosing Clusters That Fit

Through this process, we selected clusters that fit the community's needs and resources and the program strengths at both schools. The results of such a process will obviously be different for each community. We looked at Topeka and saw that there was a language arts and fine arts program of some reputation at both Washburn University and Topeka West. We saw that because Topeka is in the center of the United States and is the headquarters for the Santa Fe Railroad and other companies involved in transportation, it is a transportation center. We considered the presence of the Meninger Clinic (a psychiatric facility with a national reputation), two other major medical facilities and Colmery-O'Neil Veterans Medical Center. We also looked at the strongest technical programs at KATS. Considering all these factors, we decided on these five career clusters:

- Business/Technology
- Communication and Fine Arts,
- Engineering/Technical
- Health and Human Services
- Transportation.

Why Clusters?

Our purposes in developing career clusters were:

- ★ To have students select a career area and focus their education within that area
- ★ To tie students' high school education to programs offered at our local technical school (KATS) or to other post high school opportunities
- ★ To begin the process of developing a career major
- ★ To help teachers and students integrate academic and vocational learning
- ★ To encourage enrollment in a rigorous program of study that would not terminate with high school graduation
- ★ To fulfill needs and take advantage of opportunities in the community by developing the Transportation, Health and Human Services, Engineering/Technical and Communication and Fine Arts clusters
- ★ To make all students more aware of KATS programs and the opportunities they present and to outline clearly the sequence of courses necessary at TWHS to be successful at KATS
- ★ To make students aware of the articulation agreements between KATS and Washburn University and area community colleges
- ★ To encourage students to look at career opportunities within Topeka

We also added a Career Preparation cluster for students with special needs and an Individualized Education Plan for those whom a more specialized cluster might not be appropriate.

Guiding Students

Helping Students Choose Clusters

We decided not to phase in our cluster program gradually, but to have curriculum for all the clusters in place and have all eighth graders choose a cluster before they entered high school. At a meeting in February 1994, before eighth-grade students registered for high school courses for the fall, the students and their parents were introduced to the concept of clusters. School personnel explained the clusters and the students' options (using the course scheduling materials shown on the following pages). Before enrolling for high school courses that spring, each eighth-grade student chose one of the five clusters.

We had planned to give all eighth graders an interest inventory called the VIESA (Vocational, Interest, Experience and Skill Assessment) in the fall of their eighth-grade year and have parents and students use this information in the selection of career clusters. A variety of problems led our plans awry and we were not able to give the VIESA to our first group of cluster students. Even without using the assessment, we helped students and their parents by discussing each student's interests and talents and by exploring which cluster would be the best fit.

Our long-range plans are to provide career awareness activities and information on clusters for students in the Topeka School District starting in elementary school. This should make cluster selection much easier for eighth-grade students.

We made clear to students that it is possible to change clusters in ninth or tenth grade. During the enrollment process, students and their parents were given the handout on the following page that showed cluster similarities in ninth- and tenth-grade course offerings. This helped reinforce the idea that cluster change is possible and even easy during ninth and tenth grade. Interestingly enough there was very little switching of clusters even with this first group of students.

When the second class of eighth graders, who had been given the VIESA, were enrolled, they showed no hesitation in selecting clusters. Their parents were also understandably more comfortable with the process.

Review of Forms Used to Guide Students

The charts on the following pages outline the curriculum and scheduling system we have developed for the business and technology cluster. (These forms are reprinted with permission of the Topeka Public Schools.)

The charts show the sequence of required courses and electives for the business technology cluster. Notice that sample occupations—both those that require a college degree and those that do not necessarily require a college degree but will generally require some post high school educational experiences—are listed at the top of each page. Courses that seemed to fit the college focus are marked with a star and courses that fit the tech focus are marked with a diamond. Notice that most courses are marked with a diamond and a star, which reinforces the idea that all courses at Topeka West and KATS are rigorous and meet the needs of students preparing for a variety of careers.

The required courses for students in this cluster are shown in columns by grade. For many required courses there is some choice, depending on the students' interests, past courses or ability level. For example, students pick honors or regular freshman English depending on their middle school teacher recommendation and student and parent preference. In mathematics they select the course that is the next course in the sequence they began in middle school.

Students and their parents pick either two classes worth .5 units of credit or one course worth 1 unit of credit from the elective courses that are recommended for their cluster. There is increasing pressure from staff to remove the word suggested so that students are required to select from the listed electives. Many staff believe such a change

Comparison of Curriculum Clusters

GRADE 9

	Business	**Communications/ Fine Arts**	**Engineering/ Technical**	**Health/ Human Services**	**Transportation**
1.	English	English	English	English	English
2.	Math	Math	Math	Math	Math
3.	PE Concepts	PE Concepts	Science	Science	Science
4.	SS 9	SS 9	SS 9	SS 9	SS 9
5.	Keyboarding/ & Computers	Keyboarding/ & Computers	Keyboarding/ & Computers	PE Concepts	Keyboarding/ & Computers
6.	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*
7.	*Elective*	*Elective*	*Elective*	*Elective*	*Elective*

Grade 10

	Business	**Communications & Fine Arts**	**Engineering/ Technical**	**Health/ Human Services**	**Transportation**
1.	English	English	English	English	English
2.	Math	Math	Math	Math	Math
3.	Science	Science	Science	Science	Science
4.	Entrepreneurship & WordPerfect	Consumer Ed Req. & WordPerfect or Child & Parenting	PE Concepts	Keyboarding & Computers	PE Concepts
5.	*Cluster Elective*	*Cluster Elective*	WordPerfect & Consumer Ed Requirement	*Cluster Elective*	Word Perfect & Consumer Ed Requirement
6.	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*	*Cluster Elective*
7.	*Elective*	*Elective*	*Elective*	*Elective*	*Elective*

Curriculum Cluster: Business Technology, Page 1 of 2

Sample Occupations:

- Accounting
- Advertising
- Auditing
- Banking
- Business Administration

★College Focus

- City Planning
- Computer Science
- Economics
- Employee Relations
- Finance
- Fashion Merchandising
- Foreign Trade
- Hotel Management
- Insurance
- Law
- Marketing
- Political Science
- Purchasing
- Quality Control
- Real Estate
- Systems Analyst

9th Grade	10th Grade	11th Grade
Required:	**Required:**	**Required:**
#3450 ★♦Fr English (1) #3441 ★Honors Freshman English (1)	#3445 ★♦Soph English (1) #3442 ★Honors Soph English (1)	#3521 ★♦Junior English(1) #3522 ★Honors Jr English (1)
#5110 ★♦Algebra (1) #5123 ★Honors Math I (1) #5125 ★♦Geometry (1)	#5125 ★♦Geometry (1) #5124 ★Honors Algebra 2 (1) #5130 ★♦Adv. Algebra (1)	#5130 ★♦Adv. Algebra (1) #5174 ★Honors Trig(.5)/ #5180 ★Honors Pre Calculus (.5) #5140 ★♦Function, Stat, Trig (1) #5118 ♦Business Math (.5)
#6511 ★♦Concepts of Physical Education (1)	#5644 ★Honors Biology (1) #5640 ★♦Biology (1) #5648 ★♦Appl Biology-Chemistry 1 (1) #5692 ★♦Physics In Technology I (1)	#5690 ★♦Physics (1) #5680 ★♦Chemistry (1) #5650 ★♦Physiology (1) #5693 ★♦Physics in Technology II (1) #5648 ★♦Appl Biology-Chemistry 2 (1)
#6100 ★♦Social Studies 9 (1)	★♦Cluster Electives**** (1)	#6111/#6112 ★♦US History 1-2 (1) #6115 ★AP US History (1)
#2041 ★♦Keyboarding (.5) #2049 ★♦Integrated Computer Applications (.5)	#2115 ★♦Entrepreneurship* (.5)/ #2045 ★♦WordPerfect (.5)/	#2081 ★♦Accounting 1-2 (1)
Cluster Electives****	Cluster Electives****	Cluster Electives****/ or KATS Block
Elective***	Elective***	Elective***/ or KATS Block
Suggested Cluster Electives****	**Suggested Cluster Electives******	**Suggested Cluster Electives******
#2115 ★♦Entrepreneurship* (.5) #3741 ★♦Novice Debate (.5) ★♦Foreign Languages (1) #2492 ★♦Investigations in Technology I (1)	#2081 ★♦Accounting 1-2 (1) #3744 ★♦Debate (.5) ★♦Foreign Languages (1) #4070 ★♦Design (.5) #2493 ★♦Investigations in Technology II (1)	#2093/2094 ★♦App Communications (1) #2100 ★♦Desktop Publishing (.5) #2060 ★♦Multimedia in Communications(.5) #3711 ★♦Journalism (1) ★♦Foreign Languages (1) #4100 ★♦Drawing (.5) #4090 ★♦Commercial Design (.5) #2242/#2243 ★♦Fashion Merchandising (.5)

A minimum of 3 years of math is required. A minimum of 3 years of science is required. Students must have both biological and physical components.

*Applied Consumer Skills, Economics, and Entrepreneurship fulfill the Consumer Education Course requirement.
**Acting, Applied Communications, Debate, Forensics, and Speech fulfill the speech course requirement.
***Elective: Students will choose from the menu of courses listed in the program of studies.
****Cluster Electives: Courses supporting this career cluster.

177 BEST COPY AVAILABLE

Curriculum Cluster: Business Technology, Page 2 of 2

STUDENT NAME:______________________

Sample Occupations:

♦Tech Focus

Account Clerk
Admitting Officer
Cashier/Checker
Civil-Service Clerk
Claims Clerk
Dispatcher
Entrepreneur
Legal Secretary
Medical Secretary
ART (Accredited Records Tech)
Computer Operator
Office Support Clerk
Retail Clerk
Warehousing Clerk

12th Grade	KATS Certificate (13th Grade)	Associate Degree Available (14th Grade)
Required:	**Areas Available**	**Articulations with area Colleges**
#3470 ★♦Tech Writing (.5)/#3433 Sr Comp (.5) #2093/2094 ★♦App Communications 1-2(1)**/ or #3730 ★♦Speech	#9105 Information Specialist	Yes
#5140 ★♦Functions, Stat, Trig (1)/ or #5150 ★♦Precalculus & Discrete Math (1) #5184 ★AP Calculus (1)/ or #5210 ★Probability & Statistics (.5)/ or #5220 ★Sr. Math (.5)/ or Cluster Elective****	#9502 Medical Secretarial	Yes
	#9205 Legal Secretarial	Yes
	#9104 Office Support Clerk	Yes
#5690 ★♦Physics (1)/ or #5680 ★♦Chemistry (1)/ or #5650 ★♦Physiology (1)/ or #5692/5693★♦Physics in Tech I or II (1)/ or #5648 ★♦Appl Biology-Chemistry 1 (1)/ or #5634 ★AP Biology (1)/ or #5685 ★AP Chemistry (1)/ or #5696 ★AP Physics (1)	#9612 Graphic Arts	Yes
	#9104 Account Clerk	Yes
	#9542 Computer Operations	No
	#9210 Warehousing/Sales	Yes
#6130 ★♦US Government (.5) #6190 ★♦Economics (.5)		
Cluster Electives****/ or KATS Block		
Cluster Electives****/ or KATS Block		
Elective***/ or KATS Block		
Suggested Cluster Electives****		
#2050 ★♦Lotus/dBase 4 (.5) #2083 ★♦Accounting 3-4 (1) #2100 ★♦International Business (.5) #2105 ★♦Business Law (.5) #2150 ★♦On-The-Job Training (1) #2242/#2243 ★♦Fashion Merchandising (.5/1) ★♦Foreign Languages		

Washburn University—Sample Required Courses
Associate of Arts Degree—Office Administration

Course Credit from KATS Office Technology		24 Cr Hours
Program-Related Required Courses		
AU 295	Technology, Society, & the Individual	3 Cr Hours
OA 141	Records Management	3 Cr Hours
OA 233	Office Software Applications	3 Cr Hours
OA 241	Office Management	3 Cr Hours
OA 242	Proc for the Office Professional	3 Cr Hours
EN 208	Business & Technical Writing	3 Cr Hours
	Total	18 Cr Hours
University and General Required Courses*		
EN 101	Freshman Composition	3 Cr Hours
PY 100	Concepts in Psychology	3 Cr Hours
SO 100	Intro to Sociology	3 Cr Hours
BI 100	General Biology	3 Cr Hours
CS 150	Public Speaking	3 Cr Hours
MA 103	Intro to Math	3 Cr Hours
	Electives	2 Cr Hours
	Total	20 Cr Hours
	Total Credits for AAS	62 Cr Hours

Evening courses offered on KATS campus by Washburn at reduced tuition.

Cluster Graduation Requirements, beginning Freshman class 1994-1995

Language Arts (Fr. English, Soph. English, Jr. English, Speech**, Language Arts Electives)	4 Units
Consumer Education*	1/2 Unit
Physical Education	1 Unit
Social Studies (Social Studies 9, US History, US Govt., SS Elective)	3 Units
Mathematics	3 Units
Science	3 Units
Fine Arts	1/2 Unit
Keyboarding/Integrated Computer Applications	1 Unit
Electives	8 Units
(4 units available for tutorial and/or electives—not graduation requirements)	24 Units

could better focus students' course of study. We didn't restrict elective choices initially because we felt it would be very difficult, if not impossible, to sell restricted electives to parents and the Board of Education when the other two high schools in the district did not have such "restricted" options for ninth graders.

Most students and parents, however, did not deviate from the suggested electives during the enrollment period in February 1994 and in 1995 there were even fewer deviations. We have heard very few complaints about asking ninth graders to choose electives that reflect their career area choices.

Notice that as students progress into 11th and 12th grades, there are increasing options for course selections in both the required courses and cluster electives. Program areas at KATS that fit this cluster are shown under the KATS Certificate column. An example of the sequence of courses one would take to get an associate's degree from Washburn University is also shown. The bottom of the page lists the graduation requirements for that cluster.

The "Business Technology-KATS Suggested Course Sequences" form on the next page is the result of extensive conversations with Topeka West and KATS teachers. The teachers at KATS examined the curriculum at Topeka West and specified what courses they would recommend students take at West (before they take courses at KATS or concurrently with KATS courses) to be successful in programs at KATS for various occupations within the cluster. While these course sequences are not required, having them spelled out helps give students direction and also gives the KATS teachers a sense of investment in the cluster program.

Students also develop a "4-Year Plan" to help develop a long-term plan for high school coursework in their cluster. School counselors go over the plan with students and their parents in the spring enrollment meetings during students' eighth-grade year. Students also go over the plan with a counselor again in the fall of their freshman year. The plan lists required courses or suggested or required categories of courses in the left column. In the right column, students fill in their selections for courses for which they have several choices.

Advice for Creating a Cluster Program

Involvement with Business and Industry

As curriculum clusters are developed and cluster teams are organized, there needs to be involvement with business and industry. Employers can be asked to:

- Help identify current business and industry employment trends and skill requirements
- Define appropriate decision-making, problem solving and human relations skills students will need to be successful in the workplace
- Help align the training offered through tech prep programs and the skills needed in the workplace.

A logical step to begin this association is to organize an advisory council for each cluster, as we did in Topeka. This council provides an important link between the public schools and area business and industry. Careful attention needs to be taken when identifying the members of the community who will be asked to serve in an advisory role. These individuals should be solid role models with a willingness to give of their time and energy. A balance of different types of businesses or industry representatives is also important.

The responsibilities of an advisory council may include the following:

- Help publicize programs by serving as a public relations agent
- Support the program visibly during special events
- Assist in obtaining radio, television and newspaper coverage of courses, activities or overall program
- Recognize outstanding students
- Recognize outstanding teachers
- Support student scholarships
- Assist with student placement

KATS Suggested Course Sequences

Computer Operations

9th Grade	Math—Algebra Elective—Investigations of Technology I Foreign Language
10th Grade	Math—Geometry Science—Applied Biology-Chemistry I Electives—Accounting I-II Foreign Language Novice Debate & Design
11th Grade	Math—Adv. Algebra Science—Physics in Technology I KATS Block OR App Communications I & II Lotus and dBase4 & Desktop Pub. Foreign Language
12th Grade	Language Arts: Technical Writing Science: Physics in Technology II KATS Block OR Multimedia & Int Business On-The-Job Training /or Foreign Language and Electives

Medical Secretary

9th Grade	Math—Algebra Electives—Entrepreneurship Foreign Language or Elective
10th Grade	Math—Geometry Science—Applied Biology-Chemistry I Consumer Ed—Entrepreneurship Electives—Accounting I-II Foreign Language or Elective Debate and Design
11th Grade	Math—Business Math Science—Physics in Technology I KATS Block OR App. Communications I-II Accounting 3-4 Foreign Language or Elective
12th Grade	Language Arts—Technical Writing Science—Physiology KATS Block OR Lotus/dBase 4 & Business Law Desktop Publishing and Multimedia Foreign Language or Elective International Business

Graphic Arts

9th Grade	Math—Algebra Science—Applied Biology-Chemistry I Electives—Investigations in Technology I Design and Drawing
10th Grade	Math—Geometry Science—Applied Biology-Chemistry II Consumer Ed—Entrepreneurship Electives—Word Perfect, Photography, Electives
11th Grade	Math—Business Math Science—Physics In Technology I KATS Block OR Applied Communications I-II Desktop Publishing & Electives Commercial Design & Drafting
12th Grade	Language Arts—Technical Writing Science—Physics in Technology II KATS Block OR Newspaper/Yearbook & Electives Multimedia & Technical Drafting

Legal Secretary and Account Clerk

9th Grade	Math—Algebra Electives—Entrepreneurship Foreign Language or Elective
10th Grade	Math—Geometry Science—Applied Biology-Chemistry I Consumer Ed—Entrepreneurship Electives—Accounting I-II Foreign Language or Elective Debate and Design
11th Grade	Math—Business Math Science—Physics in Technology I KATS Block OR Applied Communications I-II Accounting 3-4 Foreign Language or Elective
12th Grade	Language Arts—Technical Writing Science—Physics in Technology II KATS Block OR Lotus/dBase4 and Business Law Desktop Publishing and Multimedia Foreign Language or Elective International Business

Warehousing/Distribution

9th Grade	Science--Physics in Technology I Cluster Elective—Investigations of Technology I
10th Grade	Science---Physics in Technology II Consumer Ed—Entrepreneurship Electives—Investigations of Technology I
11th Grade	KATS Block OR Applied Communications I & II Accounting 1-2 & Business Math
12th Grade	KATS Block OR Technical Writing & Multimedia Lotus/dBase4 and Business Law

Information Specialist and Office Support Clerk

9th Grade	Math—Algebra Electives—Entrepreneurship Foreign Language or Elective
10th Grade	Math—Geometry Science—Applied Biology-Chemistry I Consumer Ed—Entrepreneurship Electives—Accounting I-II Foreign Language or Elective Debate and Design
11th Grade	Math—Business Math Science—Applied Biology-Chemistry II KATS Block OR Applied Communications I-II Accounting 3-4 Foreign Language or Elective
12th Grade	Language Arts—Technical Writing Science—Physics In Technology I KATS Block OR Lotus/dBase4 and Business Law Desktop Publishing and Multimedia Foreign Language or Elective International Business

BEST COPY AVAILABLE

- Provide opportunities for student shadowing, internship, on-the-job training and apprenticeship initiatives
- Provide workplace experience opportunities for teachers, counselors and administrators.

Staff Development

It is highly important to send key faculty members from all disciplines to staff development opportunities. These are the people who will make the change happen and see that the program works. We provided such training to the core group of teachers who became leaders in our reform efforts and who can take credit for much of our success. As part of the inservice for our faculty, a new group of teachers is sent to the national Southern Regional Education Board conference each summer. This national conference helped our faculty become "believers" who in turn urged other teachers to become a part of the program. This commitment is continued each summer.

Inform the Community

One of our first tasks was to explain to middle school staff and parents of incoming ninth graders just what this "tech prep thing" and the cluster program at Topeka West were. We held a series of meetings at middle schools across town in January 1994 to attempt to convey what tech prep and clusters meant for the educational opportunities of students at Topeka West. In addition, the local media did a number of positive articles on the topic. Unfortunately at least two erroneous assumptions emerged from this information campaign:

- Topeka West was going away from its strong college prep program to a tech prep program; it was tech prep vs. college prep.
- We were removing options from students and forcing them to make career choices at ninth grade.

Both of these incorrect conclusions required some damage control to remedy. At spring 1994 "enrollment meetings," when clusters were discussed with students, parents and the school counselor, we were successful in clearing up some of the misunderstandings. The key points we had to make were:

- It was not tech prep vs. college prep but rather two mutually supportive programs that were intended to help students focus their education in a general career direction
- We had not dropped any of the rigor of our college prep program
- By moving from a six- to a seven-period per day plan we were actually increasing student opportunities for elective classes
- There was extensive opportunity for cluster switching during the ninth and tenth grade without serious graduation implications
- Even in the worst case scenario, if in the senior year a student realized that he or she had picked the "wrong cluster" and didn't really want to go in that career direction, that student would still leave Topeka West better prepared for college or the world of work than they would have been by completing the minimum graduation requirements under the old general track.

We learned a few things about the best way to get the message to the community. If we were starting over we probably would use the term "career prep" rather than tech prep. We feel it would be a better description for what we are attempting to accomplish. We have learned to be careful to note in all parent meetings on this topic and printed references to the education program at Topeka West that it is not tech prep vs college prep and that we are helping students to focus their education through selection of a career cluster. Unfortunately, misinformation sometimes dies hard and we still are having to explain away some misperceptions that come from a lack of understanding of what we are about educationally at TWHS and KATS.

The bottom line here, of course, is loss of students. If parents don't believe in our programs they have the choice of two other fine high schools in the school district and loss of students means constricted curricular offerings and that spells trouble. To prevent such trouble it is critically important to describe accurately what you are doing in your process of change and to describe it well.

Achieving Administrative Support

As you charge up the hill of education change, especially change that requires significant resources and alters the structure of the school and classes to the degree that we hoped, Board of Education and central office support are critical. During our planning stages there were changes and vacancies in personnel at the Superintendent and Associate Superintendent of Education Services levels that affected our planning at a critical time. In short, Board of Education members were not well enough informed of our planning to be as supportive at key points as we might have hoped. It is to their credit, however, that they were, over time, most helpful in terms of financial support for additional technology and staffing to keep our plans moving forward. All this was accomplished in the face of declining resources and other extremely heavy financial demands from other areas in the school district.

The Role of SREB

Our intent is not to sell anyone on the merits of the Southern Regional Education Board (SREB). But we do want to say that their *High Schools That Work* program provided a good catalyst and blueprint for change in our community. The book *High Schools That Work* was a very useful document and is recommended reading. SREB provided a model and structure for change, support in the form of site visits, feedback, staff inservice opportunities and reinforcement in the form of hard data from other sites. All of these support systems kept us moving in the proper direction.

We are proud of what we have accomplished at Topeka West and Kaw Area Technical School. We have moved from a system that looked exemplary from the outside—but was in truth leaving many students behind as it helped a visible few excel—to a system that allows all students to reach their full potential. We have widened the opportunities available to all students. Because we did face resistance, we believe if this restructuring can be done in Topeka, it can be done to students' benefit anywhere.

The authors of this chapter have worked together in a variety of tasks to develop the career clusters and redesign the overall curriculum offerings at Topeka West.

Nancy Dutton has been a business teacher at KATS and TWHS for the last 19 years and is currently business department chair. She has been actively involved in promoting the use of technology in the district at both the elementary and secondary levels. She has served on many district curriculum writing teams and currently is working on curriculum integration.

Randol Walker has been an administrator at Topeka West High School for the past 17 years and Associate Principal since 1984. He has been involved with the tech prep movement at Topeka West since its inception and has made a number of presentations at local, state and regional meetings. Since August 1, 1995, he has been Director of Personnel Services for Topeka School District 501.

Roberta Walker (no relation) has been Curriculum Coordinator at Topeka West High School since 1988. Prior to that, she taught home economics for 13 years. She has served on various tech prep committees at Topeka West and has also been part of the AIM Site Team.

Complete copies of all curriculum clusters and accompanying materials are available from Roberta Walker, 2220 Brookfield St., Topeka, KS 66614-4236.

CHAPTER 17

Using School-Site Mentors

By Marilyn Ash
Bethel School District
Spanaway, Washington

In creating our school-to-work system, Bethel School District decided early in the process to involve at each school a mentor whose mission is to help both students and teachers connect positively to work-based learning experiences.

In 1994-95, the first year we had such mentors—which we call work-based learning coordinators—in place, 239 of our high school students participated in paid work-based learning experiences, 61 participated in unpaid experiences and 45 students concentrating in health occupations were placed in practicums. While we might have been able to arrange work-based learning experiences without a coordinator in each high school, the coordinator's presence as a resource to students helped ensure that students had successful, positive experiences.

Although we call our coordinators at the high school level "work-based learning coordinators," they are based at the school and do not act as worksite mentors. We call our junior high level coordinator (who serves all four junior high schools in the area) the career link coordinator.

From the Beginning

School-based mentors were part of our vision for a school-to-work system from the beginning, not a separate element tacked on later.

In 1993 we held a two-day retreat with academic, vocational and special education teachers, counselors and participants from the Private Industry Council in order to establish the mission of our school-to-work system. We then chose the career assessment and work-based learning activities that students would participate in at each grade level. This sequence of activities was developed with the input of our vocational advisory committees, building principals, vocational counselors and the district administration.

The Career Activities Chart on the following page shows the focus of these activities at each grade level—from service learning in the elementary grades to formal work-based learning in the last years of high school.

It was clear to us from the onset of planning that school-based coordinators would be necessary to carry out these activities. We have defined the following responsibilities for our coordinators:

Bethel School District serves more than 13,700 students in an area of 220 square miles in western Washington state. *The nearest city is Tacoma, Washington, about 15 miles north, the primary exporting seaport on Puget Sound. Throughout the 1980s, the area's economy was based on aerospace, forest products, high tech machinery and instruments manufacturing. Recent reductions in industries, including Boeing, have caused job losses. The economy is now expanding in the areas of retail trade and business services, health care and engineering and management services.*

Students in the north end of the district live in low- to moderate-income suburbs with a low percentage of college-educated adults. The south end of the district is exclusively rural and some families are isolated from basic community and social services. Students of African American, Asian, Hispanic and Native American backgrounds make up 20 percent of the student population.

- Maintaining close contact with appropriate teachers and counselors
- Referring students to work-based learning experiences and serving as a resource for information and concerns about placements
- Providing state-approved career awareness curriculum
- Providing employers training to work with students
- Orienting teachers and parents to the work-based component of school-to-work
- Intervening and advocating on behalf of students.

The box at right lists some of the main advantages of having a school-site coordinator at each school in your system.

Advantages of a School-Site Coordinator

Your school-site coordinator can:

- Help connect your school with local business and industry and create partnerships
- Help students explore career opportunities and how work-based learning might further their career goals
- Locate and arrange for work-based learning opportunities and place students in worksites
- Work with student and employer on issues such as supervision, training, evaluation and work out any problems that come up
- Act as liaison to connect school and teachers with employers and broader community
- Help bring community resources into the school, such as speakers for career awareness and teaching workplace skills

Role of School-Site Mentors

To explain the role of our school-based coordinators, it is important to describe the schools we have in the district because the role is slightly different at each school. Bethel School District has four junior high schools (seventh to ninth grades) and two traditional high schools (tenth to twelfth grades), Bethel High School and Spanaway Lake High School. We also have two alternative high schools—Challenger High School and a satellite campus of Challenger—that use a slightly different time structure and teaching methods for students who do not cope well in the traditional high schools.

Role of Career Link Coordinator

The career link coordinator and work-based learning coordinator are key to implementing the activities of our school-to-work system in every grade level.

Our students' career exploration process begins formally in eighth grade, when the career link coordinator meets with all eighth graders as part of their technology education class. During that meeting, the coordinator has all eighth grade students take the Harrington O'Shea Career Decision Making Assessment (This assessment is available from American Guidance Services, 4201 Woodland Road, Circle Pines, MN 55014), which measures their aptitudes and interests.

The coordinator then meets with students in smaller groups and discusses with them the results of their assessments and what kinds of careers their scores indicate might be suitable for them. The coordinator introduces them to the five career paths we have established for our district: Arts and Communication, Business and Marketing, Engineering and Scientific, Health and Human Services and Industrial Technology.

The career link coordinator discusses with students the jobs available in each career path. He or she then helps students make a tentative choice of career path, identify several jobs within that path that interest them and start a career portfolio. The portfolio stays with the student throughout high school and contains a record of the chosen career path, their hobbies, special projects and awards, service learning (volunteer activities) they have done, work experience they have had and a five-year plan for Grades 8–12 with projections beyond high school that the student reviews every year.

Career Activities
by
Grade Level

Grade	Activity
8	--Career Assessment --Start Career Portfolio --Select Career Paths
9	--Field Trip for every 9th grade student based upon the student's career path. (Start in 1994-95)
10	--Careers Preparation curriculum --Job Shadow
11	--Transition activity selected from a variety of options. The activity will form the base for the senior project. --Work Based Learning
12	--Senior project/seminar --Work Based Learning
13-14	--Transition activities --Further formal education

Coordination With Counselors

We have been careful to consult with our school counselors on the career link coordinator's assessment and career awareness activities. We have not found counselors to be resentful that the coordinator is stepping on their "turf." When we introduced our five career paths, we spoke to our counselors and discovered they would be hard-pressed to find time to assess all students' career interests and meet with students about choosing a career path. Counselors were pleased that a coordinator was being hired for this specific responsibility and we have received positive feedback about the coordinator's work with students.

Students review their portfolios in ninth grade, with guidance from the career link coordinator. They can change their chosen career path at this time. The coordinator helps teach a unit on Career Assessment to all ninth graders and coordinates field trips relevant to each career pathway, in which all students participate. For example, a group of ninth graders from the Engineering and Technology career path was taken to the Boeing Aircraft company, where they saw the Boeing Wind Tunnel in operation and toured the manufacturing plant. Students in the Health and Human Services path visited Madigan hospital—the army's new high-tech training hospital—and observed cutting-edge technology and robots used in health care.

Work-Based Learning Coordinators

Once students reach high school, the work-based learning coordinator at each of our four high schools becomes their main contact for arranging worksite learning. We have discovered that the coordinator takes a slightly different role in each of our four high schools and we have had to be flexible about training coordinators and assigning responsibilities.

Bethel High School. At Bethel High School, all tenth graders take a required semester-long Careers Prep class, which uses the National Career Development Guidelines curriculum developed by the National Occupational Information Coordinating Committee. This class helps students further assess themselves and their career interests, research careers and options for training and education and learn job search skills. Students focus more in-depth on opportunities within their chosen career path.

All tenth graders do a job shadow as part of this class. The work-based learning coordinator (WBLC) works with teachers to set up the job shadows. The coordinator meets with teachers to help assess the readiness of each student for a job shadow and finds placements that meet each student's career interests.

Usually, the WBLC and student select an appropriate placement from the list of business participants who have agreed to host job shadows. Then either the student or the WBLC makes the arrangements by phone or in person for the job shadow. If there is no site on the list that matches the student's career interests, the student and coordinator work together to call potential sites. (The coordinator trains the student in contacting businesspeople and making arrangements over the telephone).

The WBLC also guides students in using a self-reflection and action form (shown on the following pages), which helps students focus and reflect on their experience during job shadows and in class activities afterward.

We have arranged for student job shadows in many different environments, including the fire department, transportation department, elementary classrooms, hospitals, a landscaping service, local Chamber of Commerce, day care facilities for children and adults, an actors guild, an architectural firm and construction sites.

At Bethel, students who have chosen the health care career path participate in a career academy within the high school. Starting in tenth grade, these students spend four hours each school day with a select group of teachers—from science, communications, social studies and home and family life studies—who integrate their curriculum and apply the content they teach to the health care field. The WBLC works closely with these teachers to set up practicums in the health care field for these students.

Bethel High School eventually plans to have career academies set up for all five career paths. As the students' curriculum and work-based learning experiences become more focused, the WBLC's role in facilitating these experiences is likely to expand.

Spanaway Lake High School. Here, instead of taking a career awareness class, students are assigned to an advisory group that meets for 35 minutes every day with a teacher who has been trained to use the National Career Guidelines curriculum and to help students expand their career portfolios. The work-based learning coordinator at Spanaway works closely with these teacher/advisors, providing them information on career awareness and helping them prepare students for work-based experiences.

1994-95 was the first year we tried the advisor group structure and the WBLC's role has not been totally developed yet. So far, coordinators have helped bring in guest speakers, given individual students help with resumes, arranged for businesspeople to give students interviewing practice, spoken to advisory groups about employability skills and goal setting and trained teachers in several areas of job seeking activities. The coordinator's role will become more defined as the advisory groups gain a clearer vision of exactly what they need to provide students.

Seminars on Work-Based Learning

At Spanaway and Bethel, the WBLCs provide students with bimonthly seminars that help students explore in greater depth issues involved with work-based learning. The coordinators develop their own curriculum for these seminars. They generally address non-occupation-specific skills for performing well in the workplace and holding on to a job—such as interpersonal skills, resource management, or how to discuss problems with supervisors.

The seminars are mandatory and are held at different times—before school, during lunch periods and after school—so that all students can find a time they can attend. We feel the seminars need to be mandatory because they are the key element that connects school and work. They provide a vehicle for discussing job-related concerns and they are small enough that the coordinator can give students individual attention to work out their particular concerns.

Challenger High School. At our alternative high schools—the Challenger school and its satellite campus—the WBLC teaches a Diversified Occupation class, which uses state approved curriculum on career exploration and is connected with work-based opportunities. The class is required for all students. The curriculum includes classroom instruction, on-the-job training and student leadership activities. Its objectives are to help students:

- Understand and apply economic principles and concepts
- Understand and apply appropriate human relations skills and develop self-esteem and personal goals
- Maintain an efficient and safe work environment
- Understand and apply basic skills in math, communications and work ethics
- Develop leadership and civic involvement.

As in the regular high schools, the WBLC at the alternative high schools arranges for work-based experiences for students (job shadows in tenth grade and more formal experiences in later grades) and helps work out any job-related problems. The coordinator develops work-based placements in the community and, with the workplace supervisor, creates each student's learning or training plan. The coordinator also provides counseling, visits students at the workplace and keeps all reports on file, including the training plan, employer evaluation form and student wage and hour report.

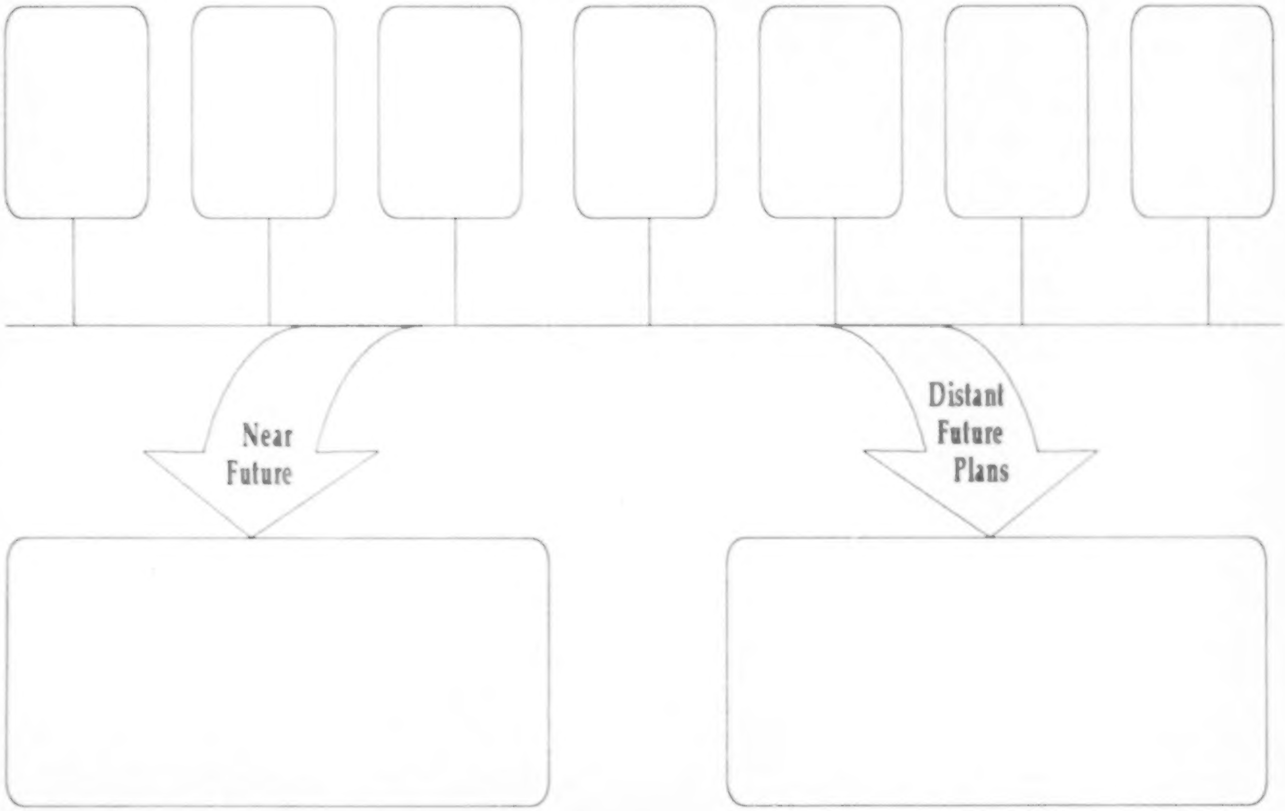
Eleventh- and Twelfth-Grade Internships

In eleventh and twelfth grade, many students move into more formalized worksite internships that usually last a whole semester. The WBLC and the student—and often a key teacher—work together to set up these paid or unpaid internships. The WBLC handles most of the logistics of student

STUDENT REFLECTION AND ACTION PLAN
Engineering and Scientific
Technology

Now is the time to develop a plan for getting the skills for this job. List the areas where you said you needed to improve your skills or did not have the skills. Using Rubrics, identify your level: Emerging,, Competent, or Exemplary. Develop a plan of what you can do in the near future to gain the skills. Do the same for what you can do in the distant future.

Skills I Need To Improve or Develop



The Bottom Line

Yes [ ]..........................I would like to work in this job.......................... No [ ]
Yes [ ]......................I would like to work for this company................ No [ ]
Yes [ ]............This job will allow me to balance my personal, career, and family goals......... No [ ]
Yes [ ]...................This job will have a positive impact on my lifestyle................ No [ ]
Yes [ ].........................I have a plan to prepare for this job.................... No [ ]

Engineering and Scientific Career Path

Job Facts: Name of Contact:____________________ Position:________________________ Company:_______________________ Phone Number:____________________ Address:________________________ ______________________________	***My Notes:*** I observed the following related to this job:

Technology on the job:

Technology can take many forms in this Career Path. Look for evidence of the types of technology applications below and evaluate your skill level.

Areas of Observation	For This Job, I ...			
	Have the skills for the job	Need to improve my skills	Do Not have the needed skills	I did not observe this area
◊ Using common technology to maintain equipment and tools.				
◊ Using common technology to troubleshoot equipment and tools.				
◊ Using common technology in the day-to-day operation of the business.				
◊ Using a new or innovative technology maintain equipment and tools.				
◊ Using a new or innovative technology to troubleshoot equipment and tools.				
◊ Using a new or innovative technology in the day-to-day operation of the business.				
◊				
◊				
◊				
◊				

BEST COPY AVAILABLE

placement, such as parental permission and transportation issues, number of hours and whether the student will be paid.

In arranging for a worksite internship, the WBLC visits the worksite and talks at length with whoever will be supervising the student-worker about the activities that student will be engaged in. The coordinator makes sure all student activities are safe and appropriate for the student's level of skill and maturity. If the internship is unpaid, the coordinator needs to ascertain that the student is not doing for-profit work.

The WBLC and the workplace supervisor write a learning plan that spells out what the student will be do and how the student will be taught certain skills or knowledge on the job. The coordinator may work with the student's teachers in developing the learning plan to make sure what students are learning in relevant classes is coordinated with their learning on the job.

At least once a quarter, the coordinator visits the student on the worksite, observes how things are going and talks with the student and supervisor to make sure there are no major problems.

Students are referred to the WBLCs for coordinating their internships in several ways. The teacher or teacher team can refer students, students can come in on their own, or the coordinator can contact teachers or students with possible internships.

Our local Private Industry Council, established under the Job Training Partnership Act, also works in partnership with the WBLCs to provide paid work experience in chosen career areas. Several students are employed in health care positions through JTPA. We also have a partnership with Boeing and have placed 10 students in paid summer internships there.

Collecting Data

Our coordinators are also responsible for collecting student data, including demographics of student participants, numbers of women in nontraditional occupations, academic learning gains, school retention, rate of job placement and earnings of participants. They also collect data on number of teacher teams, tech prep programs articulated to postsecondary schools, students in tech prep and students completing an internship within a specific career path.

Coordinators and Evaluation

Our work-based learning coordinators are developing a student evaluation form—still in the draft stage—for work-based learning experiences. The SCANS foundation skills and competencies form the foundation for this evaluation.

One of the challenges in developing the form has been agreeing on common language usage between education and business. Each of our WBLCs belongs to a different local business group with whom they meet regularly. Discussions at these meetings deal with the competencies and developing definitions of words and criteria for judging levels of competence.

Pre-Work Based Learning Rubric

One key way the WBLC and classroom teacher work together to prepare students for work-based learning and ensure that their experience is positive is through the "Pre-Work Based Learning Rubric." As shown on the facing page, the rubric lists essential non-occupation specific skills students need to master to be ready for productive work-based experience. The WBLCs use this rubric—in consultation with students' teachers—to determine whether the student is ready for work-based experience and what skills the student most needs to work on.

The rubric is also used to help employers evaluate a student-worker's skills. The WBLC discusses with the employer what level of competence the employer feels the student has achieved on these core skills and takes that evaluation back to the student's teachers. This process helps teachers know what basic skills they need to help students improve to get them ready for work.

PRE-WORKBASED LEARNING RUBRIC

Student's Name____________________________________ Date____________

Teacher/s evaluating student____

Attributes of Core Essential Learning	Emerging	Competent	Exemplary
Applies career development skills.	Student identifies skills that are transferable between school, community and career opportunities.	Student demonstrates skills that are transferable between school and career opportunities. Student develops own transition plan with guidance and understands the relevancy of the workbased experience.	Student demonstrates career development skills, self-assesses (reflects), and plans own transition from school to community and career opportunities.
Applies technology	Student uses limited technological resources with assistance.	Student utilizes a variety of technological resources appropriately.	Student selects & utilizes technological resources appropriately. Student assists others with technological resources.
Applies communication skills (verbal, written, visual, listening)	Student uses limited strategies to communicate with others.	Student uses a variety of strategies, to obtain and convey meaning that is clear and accurate. Student responds to feedback.	Student accurately compiles information from a variety of resources. Student gives and receives effective feedback and is sensitive to others opinions.
Applies responsibility and ethics	Student fulfills class responsibilities and meets expectations with supervision.	Student demonstrates pride in work and a willingness to learn from others. Student follows rules and guidelines.	Student is a self-directed learner and helps others self-assess. Student seeks additional learning opportunities and responsibilities.
Applies problem solving skills	Student makes decisions on limited information and does not take consequences into consideration. Student has difficulty problem solving in a team.	Student makes decisions on information, taking into consideration possible influences and consequences. Student evaluates and adjusts. Student works well on a team.	Student makes decision on information, possible consequences and other influences. Student uses the process consistently. Student self-assesses own growth and the growth of the group.

Applied Learning 1/95

Hiring, Training and Teamwork

Hiring a Coordinator

Your selection of school-site mentors or coordinators is crucial to the success of your program. We have found the following qualities to be the most important to an effective coordinator:

- **Excellent communications and people skills.** The coordinator must be able to work well with many different types of students and parents as well as teachers and businesspeople. People sense and flexibility are critical qualities.
- **Prior business experience.** We feel this quality is even more important than prior education experience, since the coordinator must be able to communicate and work well with employers.
- **Organization.** The coordinator must be very organized because of the amount of paperwork and data collection needed.
- **Ability to work as part of a team.** The coordinator must function well as part of both the school team and the community team.

The coordinators we hired for our alternative high schools had previous business experience but no teaching experience (one was retired from the Air Force and the other had been in real estate and the airline industry). These individuals have received vocational certification based on their years of business experience and taking the required teaching units. Both have proven to be extremely flexible and effective at building community connections for our students and working with teachers.

The coordinator positions at our other high schools were filled with vocational teachers with several years of teaching and business experience. They had also had experience with cooperative education and diversified occupations.

It is important to establish clearly the responsibilities of coordinators. You should outline and put in writing how these responsibilities fit in with the other changes being made in your restructuring. We developed a responsibility chart with columns for the teacher teams using the database, vocational counselor (OIS counselor), school counselor and work-based learning coordinator (see chart on opposite page). After creating this chart, we wrote job descriptions incorporating the above qualities with these responsibilities.

Training

We trained our four work-based learning coordinators the summer before the first year we had them in place in the schools (the summer of 1994). We had all four coordinators meet with the assistant vocational director intern, who had served as the occupational information specialist and diversified occupation instructor for the district. The trainer drew on her experience to prepare WBLCs for their responsibilities.

When school started, the coordinators felt they wanted to keep meeting informally every week to discuss how best to meet these responsibilities and to share strategies. The trainer prepared notebooks containing helpful forms and information and scheduled monthly activities to keep coordinators updated.

The team also had an opportunity to attend a state conference on work-based learning for three days. By riding together and having time to discuss needs and concerns, the team began to share a common vision of their mission.

The trainer maintained close contact with the school district's diversified occupation specialist and child labor law specialist. Our new program needed to maintain certain state requirements while meeting the district's requirements for work experience credits. Information on how to meet these requirements was provided on an ongoing basis to the coordinators.

Teamwork

Teaching the coordinators to work together as a team throughout the district was an essential part of developing their role in our school-to-work system. It was somewhat difficult to achieve in practice. Two of the WBLCs had previously been teachers with their own classrooms and were used to working independently.

SCHOOL TO WORK RESPONSIBILITIES

BHS, CHS, SLHS, GRADES K-9

School to Work Activity	Teacher and Data Base	OIS Counselors	Work Based Coordinator	Team
Guest Speakers	Team Leader			
Career Assessment		Team Leader		
Career Exploration	Shared Leadership	Shared Leadership		Shared Leadership
Career Fairs		Shared Leadership	Shared Leadership	Shared Leadership
Career Guidance/Counseling		Shared Leadership	Shared Leadership	Shared Leadership
Career Portfolio		Shared Leadership		Shared Leadership
Cooperative Education			Team Leader	
Field Trips	Team Leader			
Internships			Team Leader	
Job Shadowing	Shared Leadership		Shared Leadership	
Mentorships			Team Leader	
Electronic Mentorships	Team Leader			
Non-Paid Work Experience	Shared Leadership		Shared Leadership	
Project Workshops	Shared Leadership			Shared Leadership
Running Start		Team Leader		
School-Based Enterprises				Team Leader
Senior Projects			Team Leader	
Service Learning (K-8)				Team Leader
Student Apprenticeships			Team Leader	
Summer Youth Employment JTPA			Team Leader	
Tech Prep		Shared Leadership		Shared Leadership
Tutoring	Team Leader			
Non-Traditional Job Fair		Team Leader		
Women in Trades Fair		Team Leader		
Student Organizations	Shared Leadership		Shared Leadership	Shared Leadership

BEST COPY AVAILABLE

We found having all coordinators meet once a week for the first three months of the school year helped the team coordinate efforts and share information and resources. The coordinators are now in constant communication. Before they invite guest speakers, take a field trip or attend a special event, they call the other schools to coordinate their needs. We try never to send a bus to a field trip or special event that is not full. Coordinators schedule field trips together, identifying and combining students with similar needs.

If one school can use guest speakers in the afternoon and another can use them in the morning, schedules are coordinated and the speaker is invited to come to both schools and make a day of it. Teachers also share substitutes when they need to be away from class for school-to-work activities. A substitute may be hired, sub for one teacher in the morning and another in the afternoon. This teamwork has proved an effective way to use all resources most effectively in the district.

Community Database

One important resource our community has developed to promote teamwork is a community-and-business database.

The database contains names and information about all local businesses, businesspeople or active community people who have expressed a desire to be involved in the school-to-work system. The entry for each contact indicates what the person or business has said they would like to do—act as a guest speaker, host a field trip, provide a site for job shadowing and so on.

Work-based learning coordinators and teachers can call a central number and leave on voice mail a request for names of people or organizations that could provide work-based information or opportunities they need for a student or students—such as a job shadow site in a particular industry. An operator then searches the database and provides appropriate contact names to the teacher making the request. The database program has an internal counter. If a business states that they will provide three field trips during the school year, once they have provided three trips, they won't be called again with that request. The database also generates thank-you letters for participation.

This arrangement will help all parties participate in a systematic way with work-based opportunities. We felt such a system was necessary. People and businesses in the community had expressed their willingness to work with our schools, but said either that they volunteered and no one called or were called too much.

The database operator also has access to curriculum—from curriculum development agencies or the state—that teachers in the district can check out and use as a resource for providing students career awareness and integrating school- and work-based learning.

A Final Word

The school-to-work reforms in Bethel School District have only been in place for about three years. Our work-based learning coordinators and career link coordinators have been functioning in our schools for only about a year. We are still very much developing our system and discovering how we can best use these school-site coordinators. We hope our initial efforts and discoveries will help other schools and districts as they begin their own school-to-work journies.

Marilyn Ash is Executive Director for Applied Learning for Bethel School District, where she has also served as vocational director. Since 1990, she has been involved in curriculum and instruction integration, staff development and career development as part of Bethel School District's FUTURESCHOOLS K-12 systemic restructuring.

Integrating Reforms Into Your Current System

by René Léger
Roosevelt High School
Portland, Oregon

In 1989, Roosevelt High School was a 71-year-old traditional four-year high school located in one of the most economically deprived neighborhoods in Oregon. Historically, the school had been plagued by high rates of students dropping out and absenteeism. A small percentage of graduates went on to college, while many subsisted at low-paying jobs because they lacked the skills necessary to make a good transition to a job or career.

The culture of the high school has changed dramatically with the infusion of a school-to-work component. The first students to experience our reforms as freshmen are now seniors and while we don't yet have hard data showing that reforms have improved their prospects, I can testify to the change in this year's graduating class. In years past, if you walked down the hall, stopped senior students and asked them their plans after graduation, many would have no realistic idea of what they could do for work. Today, most could articulate a focus on a general career area or specific job and would know realistic steps they could take to pursue that career.

Work-based learning is now accepted by both students and teachers as a viable compliment to classroom learning. It is now an institutional expectation that students will participate in job shadowing and structured work experiences. Teachers appreciate that work-based learning can enhance a student's educational experience. But these changes have taken a lot of time and planning.

Integrating Reform

I have spent the past three years working with the Roosevelt Renaissance 2000 program at Roosevelt High School. My role has been to work as a liaison between the business commu-nity and the school to build consensus on what is best for students and to create partnerships that support a comprehensive school-to-work program. I have developed partnerships with more than 150 organizations, and local businesses have provided hundreds of work-based learning opportunities for our students.

While gaining the support of local business has been a major part of my work, integrating school-to-work into Roosevelt High School's existing structure has been equally challenging and rewarding. In this chapter, I will try to share some

Roosevelt High School is located in the St. John's neighborhood of North Portland. *This area is somewhat isolated from the main Portland metropolitan area. Historically, people in this neighborhood worked in Portland's shipyards and a variety of trades. The local economy has moved away from these types of jobs, and the neighborhood is economically depressed.*

The student body averages 1,200. Minorities of Africa n-American, Hispanic, Asian, American Indian, and Eastern European origin make up 33 percent of the student population.

We anticipate a lot of high-tech jobs in the Portland area in the near future, with companies like Wacker Siltronic Corporation locating here. We also anticipate service jobs connected to increased trading with Asia.

of my insights into how a school-to work program can be integrated into an existing school or school system.

I do not believe there is one "cookie-cutter" approach to integrating school-to-work into a traditional high school environment. Schools and districts across the country are unique in many ways, often with different resources, student populations and education philosophies. Each department and population within a school wants a certain autonomy. Administrators and teachers are leery of change, especially if it is imposed on them. Many have seen mandated initiatives come and go over the years.

School-to-work integration can not occur simply because it is mandated. Educators must first embrace the concept. Teachers must understand how school-to-work can help their students be more successful and ultimately make their own careers more satisfying. Teachers and administrators must be active participants in the development and implementation of the school-to-work system. But I have learned that you may have to start with small steps within teachers' "comfort zone."

Career Pathways

- **Art and Communications:** graphic design, journalism, architecture, radio and television broadcasting, public relations, and fine arts
- **Health Occupations:** medicine, dentistry, nursing, therapy and rehabilitation, nutrition, fitness, and hygiene
- **Human Services:** professional and public services for the government and the public sector
- **Business and Management:** entrepreneurship, sales, marketing, international trade, tourism and hospitality, computer information systems, finance, accounting and personnel management
- **Manufacturing and Engineering Technology:** engineering and related technologies, mechanics and repair, manufacturing technology, precision production, construction, computer-aided design and electronics
- **Natural Resources:** including environmental services, resource management, fisheries and wildlife.

The Reforms at Roosevelt

Roosevelt High School has taken a comprehensive approach to restructuring education, including the development of an applied academic curriculum that integrates general studies with vocational education within six career pathways. The six pathways represent career areas that have been forecast to offer the most opportunity in the 21st century. The six pathways and the occupational fields they encompass are shown in the box at right.

Beginning Our Restructuring

The process of developing this structure began in 1989, when a small group of teachers, parents and businesspeople began to discuss the potential for restructuring Roosevelt High School. The group initiated a survey of faculty members that showed an overwhelming desire to take a proactive approach to addressing the school's problems. The group brought Roosevelt's teachers together to develop a simple mission statement: "to provide all students with the life skills necessary for successful partici-pation in the workforce of the 21st century."

The effort to fulfill this mission statement challenged many traditions of the school and involved a significant commitment from staff and volunteers. Because it almost seemed like a rebirth, we named the project Roosevelt Renaissance 2000 (RR2000).

I was oriented to RR2000 in 1991 while serving as a volunteer on the school's advisory and public relations committees. At that time, I was employed full time as a marketing manager for a large food processing firm in the Pacific Northwest In the fall of 1992, I was recruited by the Portland Public School District to work full time on the RR2000 project as the business partnership coordinator.

When I accepted the position, I envisioned that I would be spending at least 75 percent of my time out in the community recruiting potential business partners for the program. I soon realized that I needed to focus more energy on the key players within the school—administrators, teachers and students. To build a successful program, I would need their perspectives and a consensus on program goals. Without their support, I would be operating in a vacuum and there would be little hope of integrating the program into mainstream student activities. Ultimately, I spent close to 75 percent of my time in the school with teachers, administrators and students. At each step in the process of creating our system, I worked carefully with others to integrate school-to-work into the school culture in such a way that the new system would be embraced rather than rejected or merely tolerated.

A school-to-work system is never fully developed. It constantly evolves and adapts to changes at the local, state and national level. True integration of school-to-work is an ongoing process that must be broken down into realistic goals. Through my work at Roosevelt, I have discovered several guiding principles that can make the process more manageable. Allow me to share them.

Guiding Principles

Reach Consensus on Program Goals

Before implementing any changes, the core group of committed individuals got input from as many school staff as possible to create program goals. Roosevelt teachers, counselors and administrators participated in retreats and numerous committee meetings. A large portion of the staff was involved in developing the aforementioned RR2000 mission statement. This mission statement was critical to keeping us on course. We also developed together the following broad program goals:

Phase in the program. We decided to phase in our school-to work program, targeting the freshman class for year one and adding one class in each subsequent year. We began in 1992-93 with the incoming freshmen and have since added sophomores and juniors to the program. The 1995-96 school year will be the first in which students from all grades will participate.

Target all students. Staff agreed on the importance of truly targeting all students. We believed that school-to-work was not only for "at-risk" students, high-achieving students or any other specific segment of our student population. We knew we needed to devise strategies that considered diverse student interests and aptitudes.

Provide a progression of work-based experiences. Another goal was to provide a progression of work-based learning experiences for all students in Grades 9-12. During the first year of the program, we planned to provide one job shadowing experience for some 270 freshman students as part of their freshman survey class. For year two we planned to offer two job-shadowing opportunities for sophomores within their chosen career pathway. During years three and four we planned to provide internship and structured work opportunities for juniors and seniors. While these goals felt overwhelming at times, we needed them to get started. It is crucial that schools provide ample time for staff to discuss and agree on such goals.

Create a Link to the Classroom

The freshman survey class we developed as part of our system was extremely important to Roosevelt's initial success.

This class is a yearlong career exploration course in which students are oriented to different career pathways while assessing their personal strengths and interests. The course culminates with students selecting one of the six career pathways to follow throughout high school. As part of the class, each student does a job shadow linked to his or her interests, although not yet to a specific pathway.

We enlisted two teachers to write the curriculum for the freshman survey class and team teach it along with three other teachers. As the students move on to explore each different pathway throughout the year, they meet with a different teacher. This class replaced our freshman social studies class and, fortunately for us, teachers expressed a need for this new offering and welcomed the change. However, it was an adjustment for these teachers to have a revolving group of students throughout the year rather than staying with the same group. Our teachers were patient and got used to this concept over time.

Many schools will not have the luxury of offering such an unusual course. It is important, however, that work-based learning experiences are anchored to some classroom structure. Otherwise work-based learning becomes a low profile activity that happens in isolation from the rest of a student's education.

Other core career pathway classes have been added in subsequent years of the program. Each core class is related to one of the career pathways and provides students more in-depth learning linked to careers in that pathway and to students' work-based experiences (which in later years are pathway-specific). For example, in the Health Services core class, students learn such health-related concepts as universal safety precautions, medical terminology and hand-washing techniques. They simultaneously put this knowledge into practice in their job shadow or internship. For example, a sophomore might be doing a job shadow with an occupational therapist, while a junior is doing an internship with a health clinic.

These core classes have been the anchor for sophomore and junior work-based learning experiences. The job shadows are linked to the sophomore core career pathways course, while the internship is linked to a junior career pathways course.

Enlist a Small Group—Then Broaden Support

The first goal of any well-integrated school-to-work program should be to get "buy in" from all the players that will be influenced in some way by the change. Ideally, this should include everyone within the current school or school system. Realistically, however, it may be difficult at the onset to convene everyone that might have a stake in the process. Administrators, teachers and counselors are extremely busy. It is often difficult for them to break away from their current responsibilities. I recommend starting with a small group of people, building consensus and having this group help you enlist the support of others.

I started at Roosevelt with the five teachers that were responsible for teaching the freshman survey course. When I first arrived, these teachers had begun initial discussions about job shadowing but had not developed specific program goals, structures and strategies for implementation. I began to work closely with this group, participating in some of the weekly meetings and discussing the potential program with them individually. Together we developed guidelines for work-based learning.

Include the Administration. At the same time I worked with Roosevelt's principal and three vice principals to ensure that program policies would be consistent with school policies. The prospect of having 275 students released from school for half a day was unsettling to some. The challenge was to convince the administration that students would benefit and that classroom learning would be enhanced. One thing that helped persuade administrators was to try job shadows with a few students, then report back how successful and motivating the practice was for these first few.

It soon became apparent that policies and procedures could bog down the process. For example, the question of how a student was granted permission to participate in work-based learning created much debate. The school had cumbersome policies for field trips. A great deal of negotiation was required to streamline the policy.

I also worked with district personnel at different levels. We consulted the Office of Risk Management to address liability issues. The Office of Professional and Technical Education shared information about related cooperative work experience programs.

Invite Everyone In. In conversations with the various players, it was clear that everyone had a somewhat different understanding of what job shadowing could or should be and no one knew exactly what it would take to truly make the program work. No one anticipated the amount of work that would be involved in preparing students for their job shadows.

Despite—or maybe because of—the fact that we all saw job shadowing differently, it was important that everyone be invited to participate in the process. We all had something unique to offer and by putting our heads together we came up with plans that were well supported and feasible within the school environment. I spent a lot of time meeting with interested teachers to set ambitious, yet realistic goals for students. We developed policies and procedures that took into consideration the existing school system and culture. We exchanged ideas and problem solved; we then assigned tentative roles.

Information from these many discussions was shared with the school advisory committee, which was made up of other teachers, counselors, administrators, parents and members of the community. Their input helped us maintain a broad perspective and not get swallowed up by details.

Overall, this collaboration ensured that none of the key stakeholders would feel left out of the process. In fact, as a result of participating in the initial conversations each player owned part of the program. It was critical that people not feel that the program had been imposed upon them. During the first year, this core group helped convince the rest of the staff to release students from classes and try job shadowing.

Such collaboration is possible anywhere. The participants may vary slightly but the process is consistent. Simply put, involve as many key people as possible in making decisions about a new program. Remember that everyone has something constructive to offer. Once people take ownership they will sell the concept to others.

Establish Written Guidelines

Involving all of the stakeholders was a vital first step to obtaining key information. For the information to be used effectively, however, it needed to be collected and transformed into a working document that the participants felt comfortable with. I stress that this needs to be a *working* document, since the program is always evolving. Change needs to be accepted as a constant variable.

In the first year of the program, I developed a comprehensive document titled "Guidelines for Freshman Job Shadows." It synthesized many of the ideas that were generated in conversations with key stakeholders. The guidelines outlined the program goals, objectives, expectations and processes that were envisioned by the group. (See chapter appendix for sample pages from this document.) It included three key components:

- **Employer Job Shadow Information** to help employers understand the program and make it easy for them to participate;
- **Student Job Shadow Kit** to orient students and provide structure for their experiences;
- **Internal Record Keeping** to track student and employer participation and progress.

Numerous drafts of the guidelines were reviewed by the various players described above. Revisions ranged from fundamental program changes to basic grammatical preferences. Again, it was important that everyone was invited to participate and that each contribution was acknowledged. The guidelines document created the framework for the RR2000 school-to-work system. As we began implementing the program, the guidelines helped us focus and provided a much needed structure.

This document has been disseminated to numerous schools, school districts, government agencies and policymaking bodies nationwide and serves as a model for best practices. Schools and school districts have adapted the guidelines to fit their own structure and culture. Most have found that having a similar document helps clarify expectations and brings people together to successfully launch programs.

I have since developed similar guidelines for completing junior and senior internships at Roosevelt High School. Different teachers have participated in developing these guidelines, but the process has been similar and the results have been excellent.

Inform and Survey the Students

We found it equally important to get input from students from the beginning. Since the anchor class for our job shadowing program was the freshman survey class, the freshman survey teachers provided time for me to come into the class and introduce the concept of job shadows.

My presentation to the freshman classes was the first step toward building momentum. My goal in talking to freshmen was to get students excited about the opportunities associated with job shadowing and to explain their responsibilities. I did most of the presenting and the teachers reinforced key themes. They stressed that the job shadow experiences would be linked to grades and encouraged students to be confident and open-minded about going into the work world.

After my presentations, I distributed a follow-up survey to students to assess how students felt about the concept of job shadowing and to determine the types of opportunities that interested them. The survey revealed that students were generally excited, but had some fears. Their excitement stemmed from the desire to gain a "real world" perspective that might lead to finding a good job or career. Some feared, however, that they might be perceived as a nuisance by the host employer. Others were worried about speaking properly with someone that they did not know, about using public transportation, or wearing proper clothes. It was clear that job shadowing required them to step out of the "comfort zone" of their school and neighborhood.

Prepare Students Well

The first year we organized job shadows, we discovered how important it is to designate enough time to help students be well prepared. There were many student responsibilities associated with completing job shadows. Students were required to confirm their job shadow appointments by phone, interview their hosts at the work site, reflect on the experience in writing after they returned and follow up with a thank-you note. In addition to these requirements, students needed to learn about introducing themselves, making eye contact during the interview and dressing appropriately. We also had to work out transportation logistics and have permission slips signed. This was a lot of information for students to absorb.

It soon became apparent that we had not set aside enough class time for preparation. Teachers were already overloaded with delivering required curriculum. They simply did not have the time to add this responsibility to their existing workload. Yet it was clear that our students desperately needed individual attention. Somewhat by default, this changed the focus of my work and led to the next critical phase of the program.

I began to work individually with students to ensure that all their responsibilities were fulfilled before, during and after the job shadow. I coached them on every aspect of the process until they felt confident. This individual attention took so much of my time that I soon needed a staff person to assist me.

I stress preparing students, because it is so easy to take preparation for granted. You must devote sufficient time to explaining the basic facts and all related details (such as how to get to the work site, how to dress and so on) about each student's work-based placement. Each student will grasp this information at a different pace. By carefully preparing students, we set them up for success—but if a student does not understand every aspect of the program, he or she is set up to fail.

Eventually, we hope that more of this preparation can occur in the classroom. But it takes time to phase these responsibilities into a teacher's existing workload. During the initial phases, additional resources may be needed to assure that students are adequately prepared.

Share Student Successes Within the School

At first many of Roosevelt's staff members were skeptical about the benefits of work-based learning. Many wondered whether it was worth it for students to miss valuable class time to participate in these work experiences. We helped build the program by sharing with teachers and administrators how positively work-based experiences affected many students.

To a certain extent, the students themselves sold the program to staff members as they enthusiastically described their experiences. Teachers got excited about student reactions to the program. They observed that many students returned from job shadows with more confidence and better self-esteem. Student enthusiasm spilled into the classroom and teachers spoke of having conversations with students that they had not had in 25 years of teaching—conversations about the students' futures and the many life choices they might have.

I shared student successes with staff members at every possible opportunity. Conversations took place at lunch, in the hall, at staff and committee meetings. Teachers appreciated hearing good things about their students' performance in the workplace, especially for those students that hadn't been doing well in the classroom. As staff members discussed the program among themselves, enthusiasm spread to a larger group.

Our record keeping also strengthened enthusiasm for the program. Each student maintained a portfolio that reflected work from before, during and after the job shadow. It included a completed question sheet, reflection sheet, a copy of the thank-you note and the employer evaluation. Freshmen teachers reviewed the portfolios and assigned a grade to them. Most were extremely impressed with the positive student comments.

On a larger scale, we analyzed the results of the students in aggregate. We knew the number of student participants and the percentage of students that did not participate, the places students visited and the number of companies and individual hosts that were involved. We tracked trends in the student reflection sheet and in the employer evaluations. The results of this analysis were impressive. For example:

- 93 percent of the freshman class participated in job shadows during the first year;
- Students rated job shadowing the most positive learning experience of the year;
- 97 percent of employer hosts agreed to host additional students in the future.

These positive results helped us decide and gain approval to continue the freshman program and provide two shadowing opportunities for sophomores the following year.

Share Successes With the Community

The Roosevelt program gained tremendous momentum through exposure in local and national media. A volunteer public relations committee developed information fact sheets, a brochure, a quarterly newsletter and project video and press releases for local newspapers. We created speakers bureaus to inform different organizations and local media of our progress.

The result was a flood of media attention. Our "success story" has been covered by newspapers, radio and television at the local, state and national level. Highlights included visits by NBC and an article in the *New York Times*.

This recognition boosted staff morale and made them feel that they were part of something much bigger. It validated their hard work and showed that their initiative had created recognizable success.

Get Staff into the Work World

At first it may be difficult for teachers—many of whom have spent little time outside of an academic setting—to appreciate the potential learning opportunities in the work world. We made an effort to give our teachers exposure to the work world into which they sent their students. Some teachers participated in paid summer internships with major employers in the region. Others were given release time during the school year to participate in job shadows at places their students shadowed. Teachers learned to appreciate the fears that students had prior to participating in work-based learning activities and many were inspired by these "real world" exposures.

For example, one Spanish teacher did a job shadow with a police officer. During the "ride along" she witnessed the arrest of an Hispanic man and helped the officer read him his rights in Spanish. She was so excited by the process that she later had students role play this real-world situation in her classroom.

Build On Previous Success

The second and third years of the program were added in stages and built on the success of the first year. The same guiding principles were adapted to a different goal and core group of participants.

In year two, the goal was to add two job shadow opportunities to the sophomore curriculum. In this year, we provided 690 job shadows for freshmen and sophomores, involving 93 percent of the freshman class and 99 percent of the sophomore class. The number of employer participants grew from 55 in the first year to 102 in the second and the number of individuals within the participating organizations grew from 99 to more than 500.

In the third year of the program, we focused on adding unpaid internships for junior students. (Internships were defined to be at least six to eight weeks in length and were aimed at providing more "hands-on" learning than job shadowing). Again, we adhered to our guiding principles. I worked with teachers from the core junior pathway classes to develop junior internship guidelines and this group persuaded their colleagues to try the program. We encouraged teachers to visit the work sites and to get involved in monitoring student progress.

Again we were successful. During the third year, 225 students participated in internship opportunities. An additional 53 employers supported the program. Students were extremely positive about their experiences. Teachers became more involved and explored ways to improve the process for subsequent years.

Have In-School Coordinator Bridge Gaps

The in-school coordinator is critical to integrating a school-to-work system into the school structure. The coordinator must continuously bridge the gap between the school culture and the business culture. Representatives from each environment are not accustomed to working together and initially may not understand each other's motives. Mutual trust and respect must be developed.

In bringing business and school people together, I always meet with each group ahead of time. Once I know where each sector is coming from, particularly in their perception of the other sector, I can brief businesspeople before their meeting so that they come across in a way that doesn't alienate teachers—and vice versa.

For instance, if I'm talking with a large company and I know they've had a bad experience with teachers from other schools who weren't receptive to work-based learning, I'll tell the company representative that this time we are working with a teacher who is very open to work-based experiences. Then I'll work with the teacher, stressing what a great opportunity internships with this company would provide the students, making sure the teacher shares my enthusiasm and asking her or him to communicate that enthusiasm during the initial meeting.

The coordinator must help school personnel follow the guiding principles they have agreed on. He or she must also motivate the business community to participate. This person must be passionate about his or her work and have the ability to motivate people to try something new. It is the coordinator who is the agent of change, the manager who keeps everyone going in the same direction.

It is important to note that as the program grows, the school coordinator will need more help. Each year of Roosevelt's program, I have added staff, using grants we obtained. I currently have three outstanding people working with me, without whose help I could not be effective.

Obstacles to Overcome

Time and Scheduling

The biggest challenge we have faced at Roosevelt has been persuading school staff to "buy in" to the system. We have overcome this problem by actively involving them in a carefully planned process. Time and money have been essential to making this process run smoothly.

It is critical to provide ample time for teachers to be released from the classroom so they can work on creating changes in their school. We have revised our school schedule to include a weekly late opening for teacher planning. We have also been able to pay for substitutes and extended responsibilities.

We have also found that traditional school schedules can be an obstacle to giving students enough released time for work-based learning. To address this problem, we developed a mixed blocking schedule that features seven regular 45-minute classes three days per week and three or four 90-minute classes two days per week. This rescheduling has not completely solved this problem, but it is a step in the right direction.

Obtaining Sufficient Funding

Funding is often a challenge in launching a school-to-work system. Roosevelt has been aggressive in writing grant proposals to foundations and to the state and federal government. Through our efforts, we received funding as a pilot site for education reform and work-based learning for the state of Oregon, a small grant from Jobs for the Future and a federal school-to-work grant. These grants have funded salaries for school-to-work personnel, teacher substitutes and extended responsibility time. Without this seed money, our work would have been difficult, if not impossible.

Keep Your Eyes on the Prize

Roosevelt's experiences to date reveal the potential success for schools anywhere. Integrating school-to-work into an existing school is not easy, but following key guiding principles like those mentioned above can make it happen.

When things get difficult in creating your system, revisit your mission statement and focus on the students you are serving. Remind everyone involved in the organization that their hard work will translate into exciting opportunities for students. Ultimately, their students will be more engaged and better prepared for success in the 21st century.

For the past three years, René Léger has worked as the business partnership coordinator for the Roosevelt Renaissance 2000 program, a nationally recognized leader in education reform and school-to-work transition and a recent recipient of a Federal Urban/Rural Opportunity award. Prior to his position at Roosevelt, he worked for eight years as a marketing/project manager for various companies, including Nabisco Brands, Inc.

Following are sample pages from the comprehensive "Guidelines for Freshman Job Shadows" I developed to outline for all participants our goals, expectations and procedures for job shadowing.

ROOSEVELT HIGH SCHOOL JOB SHADOW PROGRAM
STUDENT INTRODUCTION

INTRODUCTION

The Roosevelt job shadow program gives you a chance to learn about what someone actually does in a job that is of interest to you. **Job shadows will provide you with an opportunity to see firsthand the kind of jobs that exist within the 6 different career pathways. Freshmen do one job shadow and sophomores do two job shadows during the year.**

Different employers will be recruited by our Business Partnership Coordinator to make their employees available to Roosevelt students for job shadow experiences. These employees are interested in sharing information about their jobs and helping you to learn about different career opportunities.

WHAT IS A JOB SHADOW ?

Your job shadow will involve spending approximately three hours observing one or more people while they work at their jobs. Your goal will be to learn as much as possible by observing, listening, asking good questions, and taking good notes. We will help you to prepare for your job shadow, but you will have to fulfill your responsibilities.

WHAT IS IN IT FOR ME?

You may be wondering how the job shadow will help you in your education. Here are a few things that you will gain from your job shadow:

1. You see firsthand what really goes on in the work place.
2. You may have the opportunity to travel to other parts of the city.
3. You can explore a career in which you might have an interest.
4. You will meet interesting people that may help you with future jobs.
5. You will understand what is needed to get different jobs
6. You will learn part of the *process* of career exploration.
7. You will have fun!

ROOSEVELT HIGH SCHOOL JOB SHADOW PROGRAM
EMPLOYER OVERVIEW

BACKGROUND

Roosevelt High School's freshman and sophomore classes are participating in a job shadow program during the school year. Job shadows are part of a career exploration program aimed at better preparing our students for the work-force of the 21st century. We hope to make classroom learning more relevant to what goes on in the "real world".

WHAT IS A JOB SHADOW?

A job shadow is an opportunity for a Roosevelt student to spend approximately three hours with one or more employees at a business, non-profit organization or government agency. The objective is to provide the student with an opportunity to learn as much as possible from a person working at a job in which he/she has expressed an interest. By "shadowing" a worker, the student will get a firsthand perspective of what adults do in the world of work. Additionally, the student will better understand the *process* of career exploration.

During job shadows host employers are encouraged to perform normal work activities with a willingness to talk to students about their work and its significance in the organization. Students are encouraged to ask questions of their host (see page 2) such as "What do you like about your job?" or "What kind of training do I need?" Students are not expected to do "real work", but opportunities that allow for a brief contribution are appreciated.

It is important to note that your willingness to accept a student into your world will be a big boost for his/her self-esteem. For many students this job shadow will be their first entry into the "real world" as well as the first time they leave their "comfort zone".

EXPECTATIONS OF EMPLOYER:

1. Accept a phone call from a student seeking to confirm a job shadow appointment with you.
2. Simply be yourself and let the student observe you at work. Explain the important aspects of your job and how you relate to others in the organization. Answer the student's questions as best you can.
3. Complete a brief evaluation of the job shadow experience (see page 3).

EXPECTATIONS OF STUDENT:

1. Call employer to confirm appointment.
2. Arrange transportation to and from job shadow.
3. Dress appropriately. Ask relevant questions of host employer and report back using designated forms. Thank employer.

OTHER INFORMATION:

Students are on a limited time schedule. They will be excused from school for time spent on the job shadow and for time traveling to and from the work site. Job shadows are to be completed Monday through Friday from 8a.m.-4p.m.

HOW DO I GET INVOLVED?

Simply fill out the attached form (see page 4) and return it to Roosevelt High School or call René M. Léger, Business Partnership Coordinator at (503) 280-5260 (FAX 280-5663).

Roosevelt High School Job Shadow Program

Freshman Grading Criteria

This is to help you understand the importance of your job shadow to your grade. If you have questions, please ask your survey teacher or a member of the Work-Based Learning Office staff.

I. A job shadow is equal to a pathway grade (25%) in your freshman survey class.

II. To receive full credit for your job shadow you need to complete the following assignments:

1. **Student Question Sheet**
2. **Student Reflection Sheet**
3. **Thank You Note**

Your assignments are to be completed and returned to the Work-Based Learning Office the day after your appointment. If one or all of these assignments is not completed within two weeks, you will not receive credit for the experience.

III. Your Freshman Survey grade will also be affected by:

1. **If you are late in returning your work your grade goes down**
2. **Work-Based Learning Office Student Assessment**
   (The Work-Based Learning Office staff evaluates you on your attitude, responsibility, follow through, and effort in your written work.)
3. **Employer Evaluation**
   (This is how your host evaluated your performance.)

Sophomore Grading Criteria

This is to help you understand the importance of your job shadow to your grade. If you have questions, please ask your pathway teacher or a member of the Work-Based Learning Office staff.

I. A job shadow represents ____% of your semester pathway grade.

II. To receive full credit for your job shadow you need to complete the following assignments:

1. **Student Question Sheet**
2. **Student Reflection Sheet**
3. **Thank-You Note**

Your assignments are to be completed and returned to the Work-Based Learning Office the day after your appointment. If one or all of these assignments is not completed within two weeks, you will not receive credit for the experience.

III. Your pathway grade will also be affected by:

1. **Employer Evaluation**
   (This is how your host evaluated your performance.)
2. **Work-Based Learning Office Student Assessment**
   (The Work-Based Learning Office staff evaluates you on your attitude, responsibility, follow through, and effort in your written work.)

Student Contract

I understand the importance of the job shadow to my education at Roosevelt High School. I know that it is a privilege to participate and that people outside of school are giving up valuable time to help me learn about their jobs. By signing this contract, I agree to complete all of the requirements of the job shadow program. I also understand that I am responsible for making up work in classes that I miss for my job shadow.

Student Signature

Date

Witness (Representative From Work-Based Learning Office)

Date

CHAPTER 19

Staff Development in School-to-Work Reforms

by Janet Warrington

Roosevelt High School, Portland, Oregon

Staff development is a critical piece of the school-to-work puzzle. Even the most ambitious changes in how a school prepares students for life will be meaningless if teachers are not also prepared to teach students in a way that reinforces the school's new mission. In carrying out our reforms at Roosevelt High School, we made staff development a high priority and as a consequence found our staff solidly behind our new system.

Phasing in Reform

As described in greater detail in the previous chapter, in 1989 Roosevelt High School began implementing a set of reforms to our curriculum and school structure. These reforms linked what students were learning in school with work-based experiences. We have called this restructuring effort Roosevelt Renaissance 2000 (RR2000) because it seemed to us a rebirth for a school that had been plagued by high dropout rates and unpromising outcomes for students who graduated.

Our school-to-work reforms have centered on an applied academic curriculum that integrates academic and vocational teaching within six career pathways (art and communications; health occupations; human services; business and management; manufacturing and engineering technology; and natural resources). We are also arranging job shadowing opportunities for freshmen and sophomores and work-based learning for juniors and seniors, within their chosen career pathway. Both the job shadows and the work-based learning opportunities are linked to specialized classes within each of the career pathways.

We are now in the fourth year of implementing these changes. We have phased in these reforms gradually since our initial discussions in 1989. In the first year, we targeted the freshman class for curricular changes and we have been bringing one class into the new system each subsequent year. The 1995-96 school year will be the first in which students from all grades will be affected by the changes.

This gradual phasing in has helped our teachers and staff accept the changes and develop the skills needed to teach effectively in the new system. We have also devoted considerable time and energy to the professional development of our staff.

Our Goals

During the period of implementing the RR2000 initiative, we focused on two goals for staff development:

- To provide teachers with an understanding of career cluster approaches and how to achieve academic and occupational integration
- To provide support for change in the organization of the school.

We got help from some unexpected sources in reaching these goals. Several key local business representatives, who were involved in our early planning meetings, helped the RR2000 Project Coordinator and key staff implement staff development. These volunteer consultants, who eventually formed a Project Advisory Committee, shared their expertise in project management and bringing about change in an organization.

Laying the Foundation

Two years before our reforms began, the principal initiated an in-depth survey of Roosevelt's teachers and support staff regarding their concerns about the high school's problems and their recommendations for improvement.

This survey was mostly done through one-on-one interviews lasting from 20 minutes to two hours. The interviews were free-flowing and did not follow a prescribed set of questions. The interviewer (a fellow teacher) focused the discussion on the dissatisfaction most staff were experiencing with the way students were being taught and the outcomes for Roosevelt graduates. The objective of the talks was to understand what was at the heart of staff dissatisfaction and to get concrete suggestions for improvement.

After three months of interviews, teachers' perceptions and suggestions were summarized into 18 specific recommendations. In April 1989, these recommendations were published in a report titled "The Roosevelt Plan: Recommendations for the Next Five Years."

One of the recommendations in the report that was significant to Roosevelt's eventual restructuring of the curriculum was "to increase vocational emphasis." The report summarized this concern that many teachers expressed:

> *Most students who enter Roosevelt are not college-bound. For great numbers of them, the education they receive here is the last formal schooling they will get. There is a strong feeling among staff that we must do more to prepare these students for the world of work they will face when they leave. Roosevelt has a number of programs for college-bound students and a range of opportunities for Special Education students, but more attention must be focused on the majority of students who do not fall into these categories.*

At the time this recommendation was made, 75 to 80 percent of Roosevelt's students did not attend four-year colleges and universities. This perception that changes needed to be made to serve the needs of this "forgotten majority" laid a foundation for the acceptance of the career clusters concept when discussions about restructuring were initiated more than two years later. Because the staff's input had been sought and acknowledged, there was less resistance when the first meetings were held to formulate a response to the need for more vocational offerings.

Initial Activities

Vision and Mission Session

Early in the process, in December 1990, the RR2000 project coordinator brought a small group of teachers together on a Saturday at the school for a discussion of the "vision and mission" for making change at Roosevelt. The coordinator recruited teachers he sensed were innovators, offering only a box lunch and the opportunity to do something for students as enticements for giving up a Saturday morning. Eight to ten teachers showed up at this meeting. They were joined by several administrators and representatives from the business community who had been talking with the project coordinator for several months about their interest in being part of school reforms.

Planning and leadership for this session came from a consultant outside the school, a person recruited by one of the businesspeople who was involved.

The school administrators who attended this initial meeting had been exploring current thinking about vocational/academic curricula for a year. The recommendation from the survey report to increase vocational emphasis had spurred these administrators, with leadership from several vocational-technical teachers, to meet periodically to exchange ideas. But this Saturday meeting was the first time the Roosevelt staff had begun to discuss curricular changes. The teachers present became the core group who shouldered the work in the first two years of the planning phase. The process of applying for a grant for education reform through the state of Oregon helped bring this core group together regularly. It was this group who sat in meetings to provide input for the grant writers, attended the first site council meetings and generally began to think in terms of major changes in Roosevelt's curricula. After the grant was received, the group continued to meet.

Nurturing the Core Group

The teachers in this core group also made trips (sometimes supported by grant monies) early in the planning period to conferences and other schools. Besides attending several state-wide conferences on education and work issues, groups of teachers visited schools with curricula organized around career majors in Woodland, California; Pittsburgh, Pennsylvania, and Alaska to observe how these schools achieved success. These small groups of teachers learned about innovative education approaches with a vocational emphasis.

Concentrating the early resources on this core group of staff rather than spreading the dollars thinly among the entire faculty helped develop a leadership team committed to reform. These teachers acquired a body of knowledge from their experiences at conferences and other schools. They shared and used this knowledge as they led the rest of the staff toward change in the school.

Summer Internships

In the summer of 1991, we initiated a paid summer internship program for teachers at business sites. This staff development activity added greatly to the Roosevelt's staff understanding of vocational issues. The internships were set up by involved individuals from Portland businesses, who by now had formed our Project Advisory Committee. Once the internship spots were available, teachers went through an application process and assignments were made. In the first year of internships, this process was somewhat loose and informal. In subsequent years, we have contracted with a local group called the Business-Education Compact, which created a more formal process for reviewing teachers' applications and connecting them with business sites.

Over two summers, 10 Roosevelt teachers spent eight weeks each working and participating in daily routines at various Portland businesses and agencies. At most internship sites teachers were assigned projects and were expected to show up for the same work day as their co-workers on the job. In assigning the projects teachers would work on, businesses considered their needs and teachers' skills.

For example, one teacher helped a company's human resources department prepare presentations for middle school students. The same teacher also analyzed the company's training manual for improvements in teaching methods. In another work experience, this teacher, whose specialty is science, worked on a technical project growing crystals for three weeks, following the same 12-hour work schedule as other employees. Although the crystals she tried to grow were not saleable, the experience was powerful in helping her understand all aspects of the working environment.

While the project assignments provided structure for the teachers' days, the most learning seemed to come simply from being involved in the work environment. Teachers noted the expectations of the employers and their fellow employees, including what specific skills and attitudes workers were expected to have. Teachers also reflected on their own curriculum and whether students received the knowledge and skills they needed to be successful in the world of work.

In the fall, teacher interns reported their experiences, observations and reflections at a staff meeting. They discussed the kinds of skills they had seen to be essential in the work world—both specific skills like certain math abilities and general workplace skills and attitudes. Through sharing what they had learned, they helped the rest of the teachers think about the world that students will enter after high school.

Continued Staff Development

Industry Visits

Throughout 1991, we continued to focus on raising teachers' awareness of the world of work. That spring, the project coordinator, with assistance from business partners who served on the Project Advisory Committee, arranged for teachers to visit local industries. These visits contributed to teachers' understanding of what the workplace expects. The staff chose from several sites according to personal interests. Groups of 10 to 15 teachers visited each site on different days while substitutes paid for by grant monies taught classes at the school. For many teachers, these visits were the first time they had been in an industrial workplace since a summer job during college.

Training in Curriculum Development

Following the spring visits to industrial sites, we arranged for Portland State University to offer a class in curriculum development on-site at Roosevelt. This college-level class was a very effective way to help teachers think creatively about curricular changes and begin coming up with ideas for Roosevelt. Some teachers took the class simply because they needed more credit and the class was accessible. Others were part of the core group of innovators who had been thinking about change for over a year.

The net effect of these teachers convening weekly was the creation of a forum, a place to dialogue about the kinds of changes that were being considered at Roosevelt, such as career clusters and project-based instruction. The course instructor helped teachers discuss and explore some of their specific ideas for the school.

Two significant developments emerged from this weekly college-level class. One was the addition of more teachers to the group who were open to change. As a result of the weekly discussions among classmates, some of whom were a part of the original group pushing for change, more of the staff came to understand and accept the vision that eventually gave birth to RR2000.

The most significant development from the curriculum class, however, was the first new course of the Roosevelt Renaissance 2000 initiative. A small team of teachers found the time within the class structure to plan a class for all Roosevelt freshmen. They planned for the new course to include an introduction to the six career clusters RR2000 was developing, as well as self-assessment activities. The teachers called the new course "Freshman Survey" and planned for it to replace the existing freshman social studies as a required course. This course, as the teachers envisioned and planned it, was eventually adopted as a required course for all Roosevelt freshmen, beginning in the 1992–93 school year.

Retreats

During the fall of 1991, at the same time the on-site curriculum class was offered, we began to host one-day retreats for school staff. We held four retreats, each involving one-quarter of Roosevelt's teachers, along with some business representatives and parents (about 25 people). These retreats were held off-campus at facilities where conference rooms and food services were available. We were very careful, in planning the retreats, to provide comfort and a relaxing, nurturing environment. The goal was for teachers to leave the details of their duties as teachers back at school and broaden their thinking about possibilities for reform.

Consultants from the business community helped the project coordinator plan the day's schedule, which usually involved an opening session, overview of goals for the retreat, then work in small groups. Groups of seven to ten people were asked to envision Roosevelt High School in two years after it had achieved recognition for its innovations. They were asked to dream about what changes they thought would have taken place in the school's curriculum, in its relationship to the workplace, in its students and what was expected of them. The discussions were impassioned. Near the end of the day, the groups were asked to create a model that would make their vision a reality.

Some of the questions used to elicit responses and discussion were:

- What are you hoping to achieve?
- Who are the students you most want to reach?

- What is your vision of the school's structure?
- What is your vision of the curriculum?
- What is your vision of the teacher's role and relationship with other teachers?
- What is your vision of the role that the administration will play?
- What is your vision of how students learn?
- What, if any, additional resources do you believe Roosevelt will need to achieve your vision?
- What will be the role of business in achieving the vision?
- What is the most critical change to make so that you can make this vision a reality?

Implementing the Changes

Creating a Plan

Following the retreats, about 10 teachers who assumed leadership summarized the proposals from the four retreat sessions and presented them to the entire faculty at a meeting. The faculty prioritized all the recommendations and developed a plan for implementing those recommendations ranked highest. Our clusters program and the other changes brought about with RR2000 evolved from this plan.

A part of the plan included the formation of teacher teams to support each of the six clusters. The teachers developing the plan recommended that a representative from each of the academic departments should be on each of the six teams. The departments agreed, thus transforming the organization of the staff from a model of academic departments to one of cross-curricular teams focused on six career clusters.

The reorganization of the staff coincided with the first year of the Freshman Survey course. One of the first tasks of the cluster teams was to develop curriculum that would orient the freshmen students to the clusters. These introductory units were handed over to the Freshmen Survey teachers to use in their course.

The cluster teams also established business advisory groups, supported the development of cluster curriculum for the sophomore, junior and senior years and participated in the ongoing process of making changes in the school.

Continuing Staff Development

Following the nearly two-year initial planning phase, we continued our staff development, but with a more specific focus as particular needs became apparent. We have used cluster team discussions and the project coordinator's analysis, to decide how to focus staff development time.

For example, during the second year of curriculum implementation, we held short staff training sessions on project-based instruction and planning curriculum to meet performance standards. Most of these sessions were scheduled during a weekly late opening time, which is built into the Roosevelt time schedule to facilitate cluster team meetings.

The 1995–96 school year will be our fourth year of implementation of RR2000. Cluster classes for seniors will be under way for the first time. Teachers have agreed to spend most of their staff development time addressing issues of assessment. We also plan to hold short meetings that support the continuing change process, such as a review of Roosevelt's vision and mission.

As an educator who has taught at this school more than 13 years, I have seen Roosevelt change dramatically since some of us first began questioning our professional practice at the school nearly seven years ago. Bringing in our school-to-work system has revitalized a high school that was badly in need of change. It is obvious to me from talking to and working with students that these changes have better prepared them for the world they will encounter after high school. Our staff has also grown professionally and experienced renewed commitment to their jobs. We couldn't have accomplished any of it without well-planned staff development.

Janet Warrington has taught at Roosevelt High School for 13 years. She is now Project Coordinator for Roosevelt Renaissance 2000. Prior to this assignment, she was an English teacher at Roosevelt and one of the core group of teachers who initiated reforms at the school.

CHAPTER 20

Equity in School-to-Work: Serving All Students

By Mary Wiberg and Jenny Erwin

Jennifer Smith thought she was going to be a nurse. But now, after her student internship at a hospital in Fayetteville, Arkansas, she's considering medical school. That's a major shift for a young woman who is also a teen parent.

Jose and Ana Rodriguez, Spanish-speaking parents, had no idea that their daughter could learn about careers as well as academics while she was still in high school. But they discovered this after becoming involved in the career exploration program in her Georgia school.

In an exemplary school-to-work program in Michigan, Ed Jones thought he wanted to be a phlebotomist. Through an externship experience in a lab, he was able to gain an understanding that his strengths were in working with people, not in labs and that providing assistive care in an adult day care center suited him better. This student with disabilities also learned he had value to contribute to the world of work.

These local partnerships have been able to answer the question, "How are we going to serve all students?" by making systemic changes in their learning systems to meet the needs of all students. Some of the strategies they used included:

- Identifying teen parents as a priority for services and providing child care and transportation to assist them.
- Rotating students through a wide variety of internship experiences within a workplace.
- Requiring parental involvement in school-to-work planning for students.
- Setting up meetings with Spanish-speaking parents with the help of the high school Spanish teacher.
- Showing students that within different industries, there are occupations that require widely varying levels of skill.
- Designing placements appropriate to varying levels of ability, including placements for special education students and talented and gifted students.
- Working with staff at different worksites to identify feasible externships and making any necessary accommodations for students with disabilities.
- Involving all students in choosing their placement, knowing some would change their choice based on real experience with the world of work.

Why Plan for Equity?

Congress stated very specifically in the School-To-Work Opportunities Act that systems are to serve all students. But most of the dialogue on system building, so far, has related to collaboration on school-based learning, work-based learning and connecting activities. As local partnerships move forward in their system development, issues related to identifying the needs of all students and providing for their participation will gain importance.

In this chapter, we highlight some of the access and equity requirements of the law and suggest specific ways to help you answer the question, "How do we do it?" A major focus of this chapter is on the planning process. We include strategies useful in both planning and implementation, along with examples of resources that can help you serve all students.

What The Law Requires

The School-To-Work Opportunities Act defines "all students" as:

> *...both male and female students from a broad range of backgrounds and circumstances, including disadvantaged students, students with diverse racial, ethnic, or cultural backgrounds, American Indians, Alaska Natives, Native Hawaiians, students with disabilities, students with limited-English proficiency, migrant children, school dropouts and academically talented students.*

One of the stated purposes of the School-To-Work Opportunities Act is "to increase opportunities for minorities, women and individuals with disabilities by enabling individuals to prepare for careers that are not traditional for their race, gender or disability."

To accomplish this, the law requires that states and local programs do the following as part of their school-to-work systems:

- Provide opportunities for all students in school-based, work-based and connecting activities
- Collect and analyze post-program outcomes, to the extent practicable, on the basis of socioeconomic status, race, gender, culture and disability.

States, in particular, are required to:

- Develop a training and technical support system for teachers, employers, mentors, counselors and others that includes strategies for counseling and training women, minorities and individuals with disabilities for high-skill, high-wage careers,
- Set goals and identify the methods they will use, such as awareness and outreach, to ensure opportunities for young women to participate in school-to-work programs in a manner that leads to employment in high-performance, high-paying jobs, including nontraditional employment,
- Set goals to ensure an environment free from racial and sexual harassment.

Congress made these provisions so that in preparing our youth for tomorrow's world of work, every young person would be valued, provided with contextual learning and given a variety of paths following high school that lead to high-wage, high-skilled employment. While local partnerships will use different strategies, the goal should be the same—to prepare our youth for productive employment and further education and, in the process, to increase our nation's international economic competitiveness.

There was a time in America's history when some groups were not expected to significantly contribute to the workforce. But changing attitudes, civil rights legislation and economic realities have made that kind of thinking archaic. Unfortunately, in some cases the subtle messages that limit students' options and experiences persist. As the facts in the box on the facing page reflect, although women and minorities make up an ever greater portion of the American workforce, we are still far from equity in the workplace. With 4,000 students dropping out of high school every day in this country, our current system is clearly not meeting the needs of a large portion of students.

This is why the focus of school-to-work is on all students. But the "one size fits all" philosophy that got us through the industrial age no longer works with the diverse student populations of today. For school-to-work systems to work, everyone involved must admit that there are often subtle and unintentional barriers that prevent every student from experiencing success. We must face this reality honestly and use this opportunity to include every student in the process.

Realities of Women and Minorities in the Workplace

- ❖ Of the 440 classified occupations, women work primarily in 20 of them.
- ❖ 70 percent of all minimum wage earners are women.
- ❖ Females going directly to work following high school graduation earn about 75 percent of what male high school graduates earn.
- ❖ Occupations in which men have traditionally been hired pay wages 25 percent higher or more than traditionally female occupations.
- ❖ Over 70 percent of all married couples between 20 and 55 years of age both work full-time outside the home.
- ❖ The Bureau of Labor Statistics has projected that the number of Hispanic women in the workforce will grow from four million in 1992 to seven million in 2005—the second largest increase of any group in the labor force.
- ❖ The number of African American women in the workforce increased by 29 percent between 1980 and 1990.

Source: U.S. Department of Labor

Creating an Equitable System

The key to serving all students is to be collaborative and innovative in program planning and implementation. The planning process provides the vision, the foundation and the road map to get you where you want to be—in this case, to a system that serves all students. A careful assessment of the situation in your school system will provide data to use in designing a comprehensive system.

Assessing Your Current System

You should collect and analyze data on students from pre-kindergarten through the twelfth grade. This provides a base to plan for school-to-work activities at all levels and thus to a system that more realistically meets the current and future needs of all students.

We suggest that each local partnership develop an assessment planning tool to help determine the current level of service to all students. While communities will vary in terms of demographics, here are some basic questions an assessment planning tool should address:

1. Who are the in-school students currently served in the pre-kindergarten-12 education system? This data should be readily available for each school by grade level. For each level, data should be broken down by:

- Gender
- Race
- Students with disabilities
- Limited English proficient (LEP) students
- Economically disadvantaged students (information on students receiving free and reduced lunch can assist here)
- Students served in at-risk programs
- Other specific categories of students, including talented and gifted

2. For high school students, what do course enrollments look like? Is there any kind of segregation in any course areas? Examine course enrollments by gender, race and disability to identify any disparate enrollment patterns, such as in:

- Math and science
- Vocational education programs
- College prep or tech prep programs
- Other programs

3. Who are the out-of-school youth in the community? As much as possible, identify these youth by age, gender, race, disability and English proficiency. We know that data on out-of-school youth is more difficult to obtain. Some categories you may want to include and ways of reaching them, are:

- Incarcerated youth (Check with the judicial system.)
- Youth on probation (Check with the judicial system.)

- School dropouts served through JTPA or other training programs
- Homeless youth (Check with shelters and similar service providers.)
- Unemployed youth (Check with unemployment officials.)

4. What resources are currently used to serve specific groups of in-school or out-of-school youth within the community? Who are the individuals directly responsible for use of these resources? The intent here is to identify resources and individuals that can help your school-to-work system better reach various groups of students, not to redirect the use of those funds. Include resources such as:

- Chapter I funds (funds for economically and educationally disadvantaged math and reading programs, usually at the elementary level)
- Talented and gifted programs
- At-risk funds from the state or local level
- Race or gender equity grants
- Special education programs
- JTPA funds to serve economically disadvantaged youth
- Drug-free schools funds
- Family Math and Science programs—funds specific to working with parents on math or science
- Alternative schools and programs
- Teen parent programs
- Funds from the judicial system

5. What are the realities of post-high school placement of students? Often community perceptions differ from reality, especially regarding the levels of education and income youth obtain after high school. Realistic information will help you design a system to truly meet the needs of the community. Include in your examination:

- Dropout data at all levels, broken down by race, gender and disability, if possible. Include students who do not return to school in the fall as well as those who drop out during the school year. Often only the latter figure is considered.
- Student follow-up data regarding postsecondary education. As much as possible identify those who have actually completed postsecondary programs.
- Labor market information regarding industries and actual jobs available, employment projections and so forth.
- Census data regarding average income in the community, levels of poverty, education levels and similar characteristics. (This information should be available through state, county or city officials.)

Using the Assessment Data

The data collected can help your partnership do several things:

- Begin defining strategies to reach parents of students at all grade levels regarding options for their children.
- Identify resources you can connect with to help inform students and parents about the school-to-work system.
- Identify the kind of representation you will want on planning groups to reflect the diversity represented in your student population.

Based on the data you gain from the assessment, your partnership will be ready to move forward in planning to serve all students.

Identifying Partners for Planning

To help you identify potential barriers to equity and successful solutions to them, draw planning and implementation group members from many different categories representative of your community. Within each of these categories, identify individuals who have specific expertise needed for your partnership. Here are a few examples of the specific organizations and groups you might contact:

Employment-based

- Employers with experience managing a diverse workforce

- Employee network groups at local companies—often established by gender, disability or ethnicity
- Labor organizations, including the Coalition of Labor Union Women
- Job Training Partnership Act staff
- Labor market information specialists
- Registered apprenticeship programs

Government or Education-based

- Your State Commission on Women and, where they exist, commissions on other specific groups
- Tribal agencies
- State Vocational Rehabilitation Department
- Local teacher organizations (negotiating units) and other professional education organizations such as Delta Kappa Gamma
- Special education teachers, Chapter I teachers, coordinators or personnel from at-risk, teen parent and dropout prevention programs

National or State-wide Organizations

- Ethnic-specific groups such as the National Association for the Advancement of Colored People (NAACP), the National Urban League and the League of United Latin American Citizens (LULAC)
- Women's groups, including American Association of University Women, American Business Women's Association, Business and Professional Women, Church Women United, Grupo de Mujeres Hispanas, League of Women Voters, National Association of Women Business Owners, National Organization for Women, PEO Chapters, Links (a Black women's service organization) and Zonta International
- Disability groups, such as American Foundation for the Blind, Disabled American Veterans, United Cerebral Palsy Association, National Council on Disability or local independent living centers

Professional Organizations

- Legal organizations including American Bar Association (and its affiliated state and local bar associations), National Bar Association
- Medical groups, including American Medical Association, American College of Healthcare Executives, National Association of Health Services Executives, American Dental Association
- Other professional groups such as—to list only a few examples—Society of Women Engineers, Chinese-American Librarians Association, Association of Women in Science, National Black MBA Association, National Hispanic Media Coalition, National Association of Black Journalists, National Association of Social Workers

Community and Civic Organizations

- Groups serving youth such as YWCA, YMCA, Boys and Girls Clubs
- Girls, Inc., Boy Scouts of America, Girl Scouts and Campfire Girls and Boys
- The religious community including ministerial organizations, Bnai Brith and church-operated youth programs
- Junior League, Rotary, Kiwanis and other service organizations
- Chambers of Commerce and economic development organizations
- Cultural organizations, such as community writers or artists centers

As much as possible, get community-based and service organizations to participate in the planning and provide role models for your students. Do not hesitate to ask church leaders to help you identify good role models. Where community-based organizations have strong self-esteem programs already established for student populations, link with them to expand their impact and augment the school-to-work initiative.

Locating Participants and Resources

The local library or the Chamber of Commerce often have listings of professional organizations within a community and a contact person. Some groups are also listed in the telephone directory. Within many of the organizations, there are subgroups of women, minorities or persons with disabilities who could help with your equity planning.

While a few familiar names in your community may immediately come to mind, contacting organizations directly and asking for suggestions of individuals who may be interested in assisting with school-to-work planning is likely to generate new talent and resources. Often the expertise available will relate to more than one of your identified issues and concerns.

Parents should also be invited to participate. Ask them to participate in the planning of the system, to serve as role models and mentors and, of course, to be involved with their child's career development.

In addition to helping make your system more equitable, working with a broader base of resources will give your partnership a wider view of occupations and additional employer and community networks to support the school-to-work system.

Identifying Barriers and Solutions

An analysis of the data collected will help you begin to identify potential barriers to successful participation in the school-to-work system. Following are some examples of barriers to participation by various groups—and solutions—that might be identified by such planning:

Group: Elementary students in high poverty areas
Barrier: Lack of knowledge about the world of work because of parents' limited opportunities
Solution: Through partnerships with business and industry, provide work-based activities where students hear about work, visit workplaces and begin at an early age to see that there are options for them. An example of a resource to assist in planning elementary school activities is KAPOW (Kids and the Power of Work) based in New York City.

Group: Teen parents
Barrier: Lack of childcare and transportation
Solution: Identify funds from JTPA, JOBS or the school-to-work grant itself to provide these needed services. Explore the possibility of school-based childcare for participants and use of school transportation to assist them.

Group: Limited English proficient (LEP) students
Barrier: Non-English speaking parents
Solution: Identify native-language speakers to help communicate with parents about school-to-work and its opportunities. Establish a system of regular communication, not just a one-time effort. Plan specific information sessions targeting LEP students to help them communicate with their parents.

Group: Special education students
Barrier: Lack of realistic work-site learning experiences
Solution: Identify employers who have been successful in hiring and accommodating individuals with disabilities to assist in working with other employers to develop realistic work-based experiences.

Group: Females, minorities and students with disabilities interested in nontraditional employment
Barrier: Lack of role models in nontraditional jobs
Solution: Contact labor unions and professional organizations to identify nontraditional apprentices, journeypersons and professionals.

Group: All students, especially those in high school
Barrier: Difficulty in engaging parents in activities
Solution: Plan meetings with food! Ask parents to be facilitators and to present at meetings about the world of work and their experiences. Develop parent-student projects related to school-to-work activities, such as interviews about work and visits to employment sites.

Addressing Barriers

You will need to create your own process for identifying barriers to student success and suggested solutions, based on the assessment data. The following are suggestions of processes you might use:

- Establish work groups or task forces with representative community members, employers and educators to specifically address the problems identified. Several workgroups could be used, or one larger task force could be established with subgroups.
- Conduct focus groups of parents, students, community members, employers and other stakeholders to further identify barriers and brainstorm strategies to overcome them.
- Invite representatives of diverse groups to serve on the formal school-to-work partnership body, so that they can help solve problems and overcome barriers in an ongoing way.
- Address equity and access issues on each subcommittee involved developing the system. Involving all planners in addressing these issues will increase support for serving all students. To accomplish this, be sure that the membership of all committees is broadly representative of the community.
- Develop specific recommendations for serving all students and include these recommendations in your local plan.

Setting Goals

Develop specific goals for serving all students equitably in your school-to-work system, including what you hope to accomplish with students at all age levels. Set benchmarks and measures for your goals with various student populations. Use these benchmarks to measure the participation of students in all components of the system (school-based, work-based and connecting activities) and nontraditional placements by gender, race and disability.

Staff Development

Staff development is a key component of ensuring that all students are served in your school-to-work system. A broad-based professional development strategy will involve all stakeholders in the system, including parents, counselors, administrators, educators and business and industry representatives. It should also include equity training, which models innovative approaches, collaborative models and information sharing to help stakeholders learn the elements of an equitable learning and work environment.

Equity training should not be viewed as training on a single topic. Equity and access issues relate to other school-to-work activities such as curricula integration and applied instruction and should be incorporated into all other school-to-work staff training.

A Success Story From Flint, Michigan

An example of a school-to-work system that has successfully addressed the issues of access and equity is the Manufacturing Technology Program in Flint, Michigan. The system was developed in collaboration with the United Auto Workers, local high schools and auto manufacturers. From the outset, it promoted minority participation in school-to-work with brochures reflecting female and minority participants in the industry and presentations by nontraditional role models. System organizers set clear goals for significant numbers of female and minority students to enroll.

Significant numbers of women and minorities did enroll. But the organizers would not have been successful if nontraditional workplace mentors and necessary support services had not been part of the program. The success of the Flint program in terms of equity is directly related to inclusive planning from the beginning and clear, stated goals to serve all students.

Resources for Staff Development

Resources you may find helpful for staff development include:

- Trainers from business and industry to present workshops on diversity at in-service programs. Many larger companies have well-developed diversity training programs.
- Employers who have successfully accommodated persons with disabilities in the workplace. Ask them to assist the school-to-work system in replicating these strategies in worksite experiences for students with disabilities.
- Regional Desegregation Centers can provide assistance in staff development on issues of racial and sexual harassment. Contact your state education agency for the center serving you.
- Your state gender equity administrator can identify training resources on nontraditional occupations and recruitment. Again, your state education agency can help you.
- Trade and professional organizations as well as labor organizations and university-sponsored programs for women or minorities in specific fields are often willing to provide nontraditional speakers for presentations or workshop sessions about access and equity.
- Consider using *Expanding Options: An Equity Resource Guide*, developed for the Mississippi Department of Education equity office, to provide a train-the-trainer model for school-based career development activities. While this resource was not specifically developed for school-to-work, it can be used to support career exploration and the nontraditional aspect of a school-to-work system.

Equitable Environments

Helping instructors and employers create equitable learning and work environments should be the basis of your staff development efforts. The following elements, described in *Expanding Options: An Equity Resource Guide*, are essential to any equitable school-to-work system.

1. **Inclusive Thinking and Attitudes.** This element sets the tone of success for every student. It reflects the seriousness of equity issues and acknowledges the potential of every student. In the workplace, inclusive thinking is expressed both in official human resource policies and in the philosophy of the company.
2. **Varied Instructional Methods.** This element ensures that a variety of teaching methods are used that engage the diverse learning styles of every student. This includes using cooperative learning strategies and teaching models that help instructors change how they ask questions, involve students, provide feedback and give discipline (an example is the GESA or Gender-Ethnic Expectations and Student Achievement model). In the workplace, efforts are made to match work skills and aptitudes with job tasks and company needs.
3. **Balanced Instructional Materials and Curriculum.** A review of materials used in the classroom will help identify where materials could better reflect the changing realities and opportunities for all students. Since the goal is to serve all students, materials chosen will address both genders and recognize the contributions from all groups. They will also challenge students to explore nontraditional careers. In the workplace, recruiting posters, training materials and resources need to reflect the diversity of roles for women, men, minorities and workers with disabilities.
4. **All-Encompassing Language.** Because words have such a powerful impact on career choice and self-esteem, consciousness-raising for both educators and employers regarding the use of language will be important. The ideal is that all communication be inclusive, nondemeaning and nonpreferential. In the workplace written documents need to be void of stereotypic language, including the traditional use of the masculine pronoun. References to work tasks need to be gender neutral.

5. **Safe Learning Environment.** Whether it is in the classroom, workplace or hallways, the model learning environment will be one where students feel safe. This safety includes personal protection from harassment and violence as well as freedom to express opinions without fear of repercussions. In the workplace, personal safety for all workers is key. Sexual harassment policy should be posted and all workers should be trained in appropriate communication techniques.

Equity and School-To-Work

Career Awareness and Development

The career awareness and development process provides the base from which students move toward career choices. The way in which career guidance is delivered is a key component in whether a system is truly equitable.

Address All Grade Levels. Because we know that girls are more adventurous in elementary school than in high school, designing activities to promote sex equity at lower grade levels is especially important. And when we look at the data on economically disadvantaged students and dropouts, it is clear that the earlier we begin helping children learn about possible career options, the more successful we will be in serving all students.

You should develop a comprehensive career development system with the assistance of business, labor, parents and representatives of the populations in the student body. Address career awareness, including nontraditional occupations, at all levels: Pre-K-Grade 5, Grades 6–8 and Grades 9-12. In such a system, female and minority students will have greater opportunity to explore those areas nontraditional to them and are more likely to gain awareness of the importance of academics to their futures.

In shaping career development programs for students, focus on skill transferability. For example, make the point that bookkeeping skills can lead to a career as a CPA, with high wages. Show students that there are career ladders and occupations requiring widely varying levels of skills within the same industry.

An example of a program that recognizes the importance of reaching all ages is Walks of Life, a school-to-work program operating in several schools in New York City and funded primarily by the DeWitt Wallace-Readers Digest Fund. Walks of Life is developing a comprehensive career preparation system for students at all levels. The program's organizers were persuaded to begin the project at the elementary school level by educators who recognized that many children fall behind in their academic and employability skills preparation at an early age. Teachers felt that starting at the high school level was simply too late.

Walks of Life has three principal goals: improving academic performance, developing employability skills and providing age-appropriate career education. Walks of Life has taken a unique approach of combining the programs and services of several well-known national organizations to accomplish these goals at each grade level. For example, at the elementary school level Walks of Life has instituted programs offered by KAPOW (Kids and the Power of Work), Junior Achievement and the National Helpers Network (formerly the National Center for Service Learning in Early Adolescence) to introduce youngsters to the world of work and help them begin to acquire work-related skills. Other programs that meet the project's objectives are in place at the middle and high school level. All schools in the project work with a national nonprofit education consulting firm, Ventures In Education, to improve academic performance. Ventures offers services tailored to each school's needs and designed to strengthen curriculum and instruction. It specializes in promoting student-centered learning techniques such as whole language and problem-based learning.

An additional organization called WAVE (Work, Achievement, Values and Education) helps introduce the teaching of employability skills into the curriculum of middle and high schools.

Suggested Activities. Career awareness and development activities occur both in school and in the workplace and often through connecting activities. Whether in the school or in the workplace, career awareness and development activities will best serve all students when the following actions are taken:

- Use valid assessment tools to assist students in making academic, career and personal decisions based on abilities, interests and need, not on gender, disability or race.
- Provide information about workforce trends to point out the importance of increasing male and female options in careers. One source for this data is the U.S. Department of Labor Women's Bureau.
- Provide realistic information about students' job futures, including possibilities for combining work and family and length of time one is likely to spend in the labor market.
- Use contextual learning to help students understand that math and science skills will be essential for many promising jobs in the future and encourage students to take these classes.
- Routinely provide information regarding job salaries as they relate to career interests, including accurate data on the difference in salaries for traditionally male and traditionally female jobs.
- Present students at all grade levels with nontraditional role models through examples in textbooks and literature, videos and face-to-face contact with workers.
- Have teachers, counselors and employers support students who make nontraditional choices through providing mentors on the job, verbal encouragement and opportunities for hands-on experience with the nontraditional work of their choice.
- Incorporate materials into the curriculum that show the changing roles of men and women in the family and workplace.

Voc Fest for Eighth Graders. Each state has some career awareness activities already in place that promote nontraditional careers and high-skill, high-wage opportunities One strategy your partnership might try is a Voc Fest. Voc Fest is a successful strategy that schools have used to increase student enrollment in technology classes and give all eighth graders a realistic outlook on their future.

In the spring of the eighth-grade year, before students make their course selection for high school, the entire high school they will enter is involved in introducing all students to nontraditional career options through hands-on activities. There is much preliminary preparation of the students, including an interest inventory and discussions about the results of the inventory and nontraditional options. The eighth graders travel to the high school and are met by student guides who serve as role models. Each student visits one nontraditional and one traditional vocational class and uses equipment and tools to get a real hands-on experience.

Afterward, teachers follow up by assigning writing and decision-making activities. Students also are given assignments that involve their parents and the business community, such as interviewing their parents about their career choice and what they would do differently today. Students may get extra credit for visiting a business and interviewing the workers there.

Although a Voc Fest is time intensive, the results pay off. Students, parents and teachers know that all the eighth graders are better informed about their options and can enter high school with a more realistic idea of what they might want to do in their future.

Recruitment in School to Work

Develop specific recruitment and support strategies for young women, students of color and students with disabilities. Make sure local representatives of regional and national companies are involved in the planning stages, since many such companies have extensive outreach and recruitment efforts aimed at these groups.

Career Clusters

When determining the career clusters for school-to-work programs, make sure that opportunities are provided in both high-wage traditional and nontraditional occupations. While nontraditional occupations may pay more, many students will not choose the nontraditional, but all students should be provided with high-wage, high-skilled choices. Resources to assist you with developing nontraditional opportunities can be obtained through the state gender equity administrator, professional associations and organizations like Wider Opportunities for Women and the Institute for Women in Trades, Technology and Science.

Worksite Learning Experiences

While many employers have developed policies regarding fairness in the workplace, we know that some employers have not had the resources to conduct staff development on gender and race equity in the workplace. As relationships develop with local employers, it is important to establish guidelines related to equity and access that employers agree to. Currently, for example, it is required by law that employers participating in work-based activities with students agree that they will not discriminate on the basis of race, disability, gender or other factors, just as schools receiving federal funds must agree.

Apart from legal considerations, if we are to serve all students equitably in worksite experiences, here are some suggestions:

- Seek to identify worksite role models for students that match the diversity of the students themselves, including gender, ethnicity, disability and career interest.
- Provide necessary staff development so that everyone is comfortable making nontraditional placement of students.
- In determining criteria for placement, remember it is illegal to discriminate on the bases of gender, race or disability. In developing the criteria, provide the broadest opportunity for all students.
- Be clear with employers regarding the requirement that opportunities be provided in an environment free of racial and sexual harassment. Ask about employer policies.
- Request that clear information be provided to students regarding hiring practices to assure realistic expectations on the part of students.
- Require a mentor for each student in a worksite experience. Provide training for these mentors to be sure they are prepared to talk realistically about the working environment and how to succeed.
- Make sure that employers provide a variety of high-skill opportunities for all students. Do not let them place students in dead-end situations where there will be no career path possible.
- Where pre-apprenticeship opportunities are available, market them to all students.
- Keep accurate records of all student placements in worksite experience. Analyze the data to ensure that efforts are being made to involve all students in a variety of experiences, not only those which are traditional for certain groups.

Through developing strong partnerships with employers, being clear with them about expectations regarding access and equity and providing well-prepared students to participate in work experiences at their businesses, you can ensure that worksite learning will successfully serve all students.

The Importance of Change

Jennifer Smith, the Rodriguez family and Ed Jones are lucky. They have options, a direction and a future. The education system has served them well. But this would not be true without the systemic changes in their local school systems. Was it easy to do? No. Have all the problems been solved? No. Is this approach necessary? Absolutely.

To develop a world-class workforce, we must serve the Jennifers, Eds and Rodriguezes in our communities. This is an important new way of doing business. Our action on equal opportunity and access must match our words. When what we say about access is reflected in our actions, then our systems will truly serve all students.

Proyecto Adelante: A Model Program for Equity

Proyecto Adelante, in the Tucson, Arizona, Unified School District is an innovative approach that models several positive school-to-work concepts. The student population of the district is primarily Hispanic students with limited English proficiency. Historically, many of these students have been in the special education classes with limited exposure to career planning and workplace development. During the past four years, more than 400 tenth graders in Proyecto Adelante have participated in an extensive career exploration project. This project involved interest inventories, field trips, nontraditional role models, business partnerships, community service and a media project.

Each year the students, who primarily live in the inner city, have assisted the state parks programs by adopting a trail. Throughout the year, they help maintain the trail and educate other people about preserving the environment. They also record their experiences on film. Working with their school's media production studio and students not in Proyecto Adelante, the students produced an award-winning video that is now part of the educational program at Tubac National Monument.

This entire effort has given these students job shadowing experiences with the state parks, employment opportunities and a realization that they do have skills and something to contribute to the workplace. Without this approach and the strong support from their teachers, these students probably would have had very limited futures. They now have real-life experience that has shown them they have work options and can contribute to society.

Proyecto Adelante met the challenge of serving all students by promoting positive expectations and offering expanded choices. This approach helped the students overcome their limited views of their own future and showed the community the potential of these students as well.

Jenny Erwin is the equity administrator for the Arizona Department of Education. In 1993, she developed Expanding Options: An Equity Resource Guide for the state of Mississippi. She uses this guide to help counselors and educators in other states design school-based learning activities to tie into their school-to-work systems. She was also involved in the development of Arizona's school-to-work implementation grant.

Mary Wiberg is the vocational education gender equity administrator for the State of Iowa. She works extensively at the national, state and local levels to build youth apprenticeship and school-to-work programs and systems. She has directed a federal youth apprenticeship grant, assisted in the development of a successful local partnership implementation grant and serves on the State of Iowa School-to-Work Team.

Resources for Equity

More information about resources such as those listed below can be obtained from your state gender equity administrator or your State School-to-Work Office.

Things Will Be Different For My Daughter: A Practical Guide to Building Her Self-Esteem and Self-Reliance. Mindy Bingham and Sandy Stryker, with Susan Allstetter Neufeldt, Ph.D., Penguin Books USA, Inc., 375 Hudson Street, New York, NY 10014.

This guide, based on the latest research, offers concrete advice and strategies on how to raise your daughter to be confident and capable. It includes eight key skills for a hardy personality and ways to develop and support these qualities.

The Scientist Within You: Experiments and Biographies of Distinguished Women in Science. Rebecca Lowe Warren and Mary H. Thompson, ACI Publishing, P.O. Box 40398, Eugene, OR 97494-0064.

This book makes teaching science easy. It helps young people ages 8–13 discover science skills and history though hands-on experiments and activities inspired by the work of women scientists.

Career Choices and Changes: A Guide for Discovering Who You Are, What You Want and How to Get It. Mindy Bingham and Sandy Stryker, Academic Innovations, 3463 State Street, Suite 219, Santa Barbara, CA (805) 967–8015.

This book helps you learn what other career books assume you already know. It increases the reader's self-knowledge, assesses preferred work style and occupational environment, offers insight and advice on having a balanced life and promotes skills to handle the changing times.

Choices: A Teen Woman's Journal for Self-Awareness and Personal Planning. Mindy Bingham, Judy Edmondson and Sandy Stryker, Advocacy Press, P.O. Box 236, Santa Barbara, CA 93102.

This book addresses the myths and hard realities young women will face in entering adulthood and details the critical and inevitable choices she will make deliberately or by default.

Challenges: A Young Man's Journal for Self-Awareness and Personal Planning. Mindy Bingham, Judy Edmondson and Sandy Stryker, Advocacy Press, P.O. Box 236, Santa Barbara, CA 93102.

This book helps males understand themselves, their feelings and their relationships. It gives specific activities to help them get their acts together and decide on the type of life and work they will find most rewarding.

Failing at Fairness: How America's Schools Cheat Girls. Myra and David Sadker, Charles Scribner's Sons, MacMillan Publishing Company, 866 Third Avenue, New York, NY 10022.

The findings reported in this book show how subtle and often inadvertent sexism by even well-intentioned people contributes to an environment that ultimately negatively impacts the healthy development of many girls. The Sadkers offer suggestions for change that will help tomorrow's women be prepared for a full partnership in the next century and beyond.

Images: A Workbook for Enhancing Self-Esteem and Promoting Career Preparation. Mattie Evans Gray, California Department of Education, Publications, 1-800-995-4099.

This book is for black females in grades 6–12 and includes autobiographical comments and photos of 21 role models. The activities help young women increase their self-awareness, develop positive attitudes toward academic achievement, learn new ways of peer interaction and explore a variety of career options.

Mariposa: A Workbook for Discovery and Exploration. Maria Elena Fernandez, California Department of Education, Publications, 1-800-995-4099.

This workbook contains exercises and information to help Latinas develop their decision-making skills. It encourages Latina women to know themselves, their culture and the world they live in. It opens doors of possibilities for all who read it.

Visions: Rites of Passages for Young African-American Men. Ronald Johnson, Department of Education, Publications, 1-800-995-4099.

This is a culturally based workbook for young African-American males and it covers the 10 rites of passage through which they must pass to become responsible men. All of the passages contain lessons that teach the students about contributing to our current world.

Options: Making Connections in Today's World. Michael Hanson, California Department of Education, Publications, 1-800-995-4099.

This workbook targets adolescent white males and helps them understand the changing roles of men and women in work and family. It looks at images of self-esteem, career choices, nontraditional roles, the global workplace and diversity issues into the 21st century.

Dreams of Flying, Severo Perez, California Department of Education, Publications, 1-800-995-4099.

This 25-minute video explores the issue of career awareness, parenting skills, nontraditional work and adult literacy. Targeting fifth grade through adult, it describes the problems that surface when traditional values and social pressures conflict with youthful ambition and opportunity. Viewers are presented with problem-solving techniques when a young girl's dreams become reality through overcoming social barriers.

Organizational Resources for Equity

KAPOW (Kids and the Power of Work)	(212) 840–1801
Junior Achievement	(719) 540–8000
National Helpers Network	(212) 679–2482
Ventures in Education	(212) 696–5717
Wider Opportunites for Women	(202) 638–3143
Institute for Women in Trades, Technology and Science	(301) 270–8014
WAVE	(800) 274–2005

A Model For Serving At-Risk Students

by Jimmy G. Koeninger

Jobs for America's Graduates, Inc.

A major obstacle for many young high school graduates, but particularly at-risk youth, is their inability to secure full-time employment. The Jobs for America's Graduates Program is designed to help at-risk participants obtain and keep good jobs during the first nine-month period following graduation from high school.

We define "at-risk" students as those who have left or seem likely to leave school before graduation, or who will likely find it difficult to achieve a successful attachment to the labor force. The JAG model has achieved extraordinary results by delivering an array of services to at-risk students in their senior year of high school and providing nine months of follow-up services. This model is now being offered in comprehensive high schools, vocational schools and alternative schools. To the best of our knowledge, JAG is the only organization in the nation able to offer states a school-to-work transition system for at-risk students that has been proven to work.

Twenty-four states currently operate JAG programs, with four more expected to initiate the program in the 1995-96 school year. The model is the result of 15 years of experience in implementing school-to-work, dropout prevention and dropout recovery programs for at-risk youth. It assumes total responsibility for these young people during a single or multi-year intervention while they are in school and the first nine months after graduation. Those who believe in a structured program, who place emphasis on youth employment outcomes and who have a sustained commitment to improving the labor market prospects of at-risk youth will find the JAG model well designed to meet their needs. Close adherence to the model and effective monitoring of performance will guarantee effective youth programming at the local level.

Since its inception, Jobs for America's Graduates has accepted the challenge to accomplish two objectives:

- To design and test a school-to-work transition system that offers at-risk students relevant, interesting and personally rewarding learning experiences—experiences that encourage them to stay in school, receive a high school diploma (or GED) and find a full-time job or enter schooling that fits their career interests.
- To provide the employment community with qualified, motivated and career-oriented entry-level workers.

The table on the following page shows the outcomes in terms of high school graduation rate, job placement rate and other measures for participants in JAG programs from 1989 to 1994.

The Early Years

Jobs for America's Graduates established its model twelfth-grade school-to-work program in Delaware in 1979 under the leadership of

The Performance Outcomes of Jobs for America's Graduates Participants in School-to-Work Transition Programs, Classes of 1989 to 1994

Performance Outcome	1989	1990	1991	1992	1993	1994	JAG Standard
Graduation Rate	91.1	90.0	91.2	91.4	90.5	88.1	90.0
Positive Outcome Rate*	81.4	78.2	79.6	78.6	80.1	81.4	80.0
Job Placement Rate	61.6	58.5	59.3	57.2	59.6	61.4	60.0
Full-Time Jobs Rate	66.4	63.9	59.1	59.8	62.0	67.5	60.0
Full-Time Placement Rate	N/A	N/A	N/A	N/A	89.4	84.0	80.0
Further Education Rate	N/A	N/A	N/A	32.8	35.0	34.5	N/A

** "Positive Outcome" refers to the percentage of graduates who are reported to have attained full-time or part-time jobs, military service, or enrollment in an educational program.*

Governor Pete du Pont, his education advisor, Kenneth M. Smith, who currently serves as president of Jobs for America's Graduates, Inc., and senior government and private sector supporters.

Based on the success of Delaware's state-wide effort, Jobs for America's Graduates, Inc. was created to test this model on a national scale. Those in Delaware were convinced that a comprehensive state-level approach was needed to help at-risk youth stay in school and get quality jobs. The staffs of the Rockefeller and Ford Foundations supported that decision. In concert with the U.S. Department of Labor, they provided necessary funding to underwrite the establishment and implementation of the JAG model in Massachusetts, Arizona, Missouri and Tennessee.

In 1986, the Board of Directors expanded the mission of JAG to combine the twelfth-grade school-to-work transition program with a dropout prevention approach for ninth, tenth and eleventh graders. A determination to help at-risk youth stay in school, graduate and secure quality jobs prompted that decision. This multi-year intervention is referred to as the four-year JAG program.

The initial test site for the dropout prevention component was the Jobs for Tennessee Graduates Program in Nashville. The expansion into lower grades in high school (ninth through eleventh grades) has been well received by specialists who believe that some youth can be better served if they are able to receive services earlier. Both Nashville and Jobs for Maine's Graduates are currently testing a seventh- and eighth-grade early intervention variation of the JAG model. The early results are encouraging other JAG states to expand the model into the lower grades. Delaware tested and refined the four-year program model.

The JAG Model—An Overview

The twelfth-grade school-to-work model (as well as the four-year model) includes the following key components.

- The employment of job specialists who take personal responsibility for 35 to 45 twelfth graders who are at risk of not graduating, becoming unemployed or both.

- The Career Association, a highly motivational student-led organization based on the success of Junior Achievement, National FFA Organization, Distributive Education Clubs of America and similar groups. The goal is to provide personal motivation, which JAG believes is a critical element in developing the self-confidence necessary to succeed in the workplace.
- Thirty-seven job-related competencies JAG developed in cooperation with employers (see listing on next page). These competencies are achieved through a variety of activity-based curricula drawn from both public and commercial materials. Based on evaluations by JAG staff at the national and local levels, JAG regularly revises the curricula materials.
- Remediation and basic skills education provided by resources available in the schools or the community. There is particular interest in raising reading levels and improving math skills.
- Social services (such as counseling related to drug and alcohol abuse, teen pregnancy, medical problems, family problems or child abuse) required to help young people overcome barriers to staying in school and getting good jobs.
- Partnerships between employers and schools. The employment community provides access to quality jobs, access to private sector expertise, a bottom-line perspective and private funding to supplement public funds. The school system provides access to at-risk students in the schools or the community, to public sector expertise, to public funding and a "people" perspective to combine with the private sector's business perspective.
- Intensive employer marketing and job development activities. The job specialist is responsible for persuading employers to hire JAG youth—at least on a trial basis—at or before graduation.
- Nine full months of follow-up after graduation to ensure that the jobs participants secure have career potential and to try to solve any problems that may occur on such jobs. A crucial follow-up objective is to obtain a raise or promotion for each employed graduate.
- Extended follow-up for participants that fail to graduate or fail to receive a positive outcome after the follow-up period.

Delivery of Services

The JAG model delivers a structured set of services. These services build on one another to increase the likelihood of obtaining the program goals. The job specialist at each school provides or coordinates all JAG services for that school. The services consist of the following:

- **Group and individual classroom activities** that address the 37 JAG employment competencies, remedial instruction and social service needs of participants.
- **A student-led Career Association** that provides participants with opportunities to take on social and civic responsibilities, build leadership skills, learn how to work in a group setting and become active in a student club or association, possibly for the first time in their high school years.
- **Job development and placement assistance** for all graduates and sustained follow-up services for participants, employers and education institutions throughout the follow-up period.
- **Work-based learning experiences** for participants. JAG is now beginning to provide such experiences to all participants through partnerships with employers. Work-based learning will occur in the early grade levels through job shadowing and field trips. JAG intends to use an internship or cooperative education approach in other work-based learning experiences.

Basic Goals

The JAG model does not have one goal—it has a set of goals. It is important to understand

Basic Job-Related Competencies Taught by JAG

The core competencies that JAG teaches are the result of employers' views on desired worker traits and skills, job search reviews and considerable feedback by specialists.

Career Development

- Identify occupational interests, aptitudes and abilities
- Relate interests, aptitudes and abilities to appropriate occupations
- Identify desired lifestyle and relate to selected occupations
- Develop a career path for a selected occupation
- Select an immediate job goal
- Describe the conditions and specifications of the job goal

Job Attainment

- Construct a resume
- Conduct a job search
- Develop a letter of application
- Use the telephone to arrange an interview
- Complete application forms
- Complete employment tests
- Complete a job interview

Job Survival

- Demonstrate appropriate appearance
- Understand what employers expect of employees
- Identify problems of new employees
- Demonstrate time management
- Follow directions
- Practice effective human relations
- Appropriately quit a job

Basic

- Comprehend verbal communications
- Comprehend written communications
- Communicate in writing
- Communicate verbally
- Perform mathematical calculations

Leadership and Self-Development

- Demonstrate team membership
- Demonstrate team leadership
- Deliver presentations to a group
- Compete successfully with peers
- Demonstrate commitment to an organization

Personal Skills
(taught to all but senior students)

- Understand types of maturity
- Identify a self-value system and how it affects life
- Base decisions on values and goals
- Identify process of decision making
- Demonstrate ability to assume responsibility for actions and decisions
- Demonstrate a positive attitude
- Develop healthy self-concept for home, school and work

that students are expected to achieve these multiple goals during the 18-month period that job specialists are involved in their lives. The goals can be classified into three major categories.

Goals related to in-school activities. These are what students are expected to accomplish during the course of their participation in the program. First, there are in-school goals related to improvements in participants' employability skills and knowledge during the course of the program. Secondly, there are goals to develop those other job readiness skills that employers believe are fundamental to success on the job, including personal motivation, ability to work in a group setting and communication skills. Achievement of these goals makes the students better prepared to enter the labor market and to perform well on the job.

Immediate post-program goals. These are goals related to labor market outcomes for participants soon after they graduate from high school.

• **Labor Force Attachment.** One of the major objectives of the program from its inception has been to guarantee that when young people leave school, they do not spend a substantial period of time drifting in and out of the labor market or moving aimlessly from one job to another. The first post-program objective therefore is to make sure that upon graduation young people can immediately enter and remain strongly attached to the labor market during the first nine months following graduation.

- **Unemployment Avoidance.** The program seeks to improve the likelihood that participants will avoid unemployment once they begin participating in the labor market, particularly the long spells of unemployment that typically characterize at-risk youth. Ideally, we hope to help young people avoid any period of unemployment. If they do become unemployed, then JAG programs want to guarantee that this period of joblessness will be relatively short.

Longer-term goals. These are the broader goals for participants during the entire nine-month period after graduation.

- **Full-time Employment.** Participants aim to secure and retain full-time employment in the first year following graduation from high school. Even those graduates that opt to continue their education are encouraged to work at least part time as a way to reinforce the JAG competencies and to establish a positive work record.

- **Changes in Status.** These goals relate to progress in terms of earnings and occupational mobility. The young people are expected to improve their working conditions and terms and, if possible, obtain hourly wage increases and/or gain promotions during the follow-up period.

Accountability

Program Performance Measures and Standards. The JAG model is based on research and focused on results. Programs use a series of program performance measures to make sure they have attained certain standards. It is important that users adhere to the features and performance standards built into the JAG model.

Since its beginning, Jobs for America's Graduates has sought to accumulate information about its own local and state program successes and those of other school-to-work and dropout prevention programs throughout the country. Research findings about what works in improving the employability of young people have been built into the model to make it more effective. JAG also has developed record-keeping and data collection systems to guarantee that these performance measures and standards can be measured routinely on a school-by-school basis as well as on the state and national level. The key program performance standards include the following:

- **Contact Hours.** Seniors, on average, should receive a minimum of 60 combined hours of employability skills instruction and involvement in Career Association activities. Non-seniors should receive no fewer than 80 hours of regular and sustained contact to improve academic performance and personal attributes. This is accomplished through classroom activities, remediation work, directed work experience and Career Association activities. Nationally, contact hours average in excess of 110 contact hours with the majority closer to 180.

The standards for these minimum hours of participation are based on past experience of the minimum amount of time needed to provide instruction in each of the employment competency areas. These minimum contact hours also guarantee that students will have sufficient time to learn what they are taught, to illustrate their knowledge and to provide evidence of substantive gains in employability skills and knowledge.

- **Job Placement.** With respect to job placement, JAG's performance standards require, first, that 90 percent of program participants will graduate from high school or receive a GED. Secondly, JAG requires that by September 30 following graduation, a minimum of 60 percent of the graduates will be employed in civilian jobs or be serving in the armed forces. Thirdly, of those young people working, it is expected that 60 percent of them will be holding full-time jobs (35 or more hours of work per week). Fourthly, 80 percent of graduates will be either employed or enrolled in postsecondary education or a training institution at the time of each monthly follow-up from September 30 to March 31.

• **Follow-up Services.** Job specialists provide follow-up services to participants and employers for nine months after graduation. The specialist determines how the individual is performing on the job and whether there are any problems perceived by either worker or employer. Specialists help find solutions to any problems that do exist, such as helping participants improve skills or ask for more on-the-job training. JAG performance standards require monthly contacts with participants and five contacts with each employer.

Best Practices. In the annual accreditation process, a trained JAG site reviewer or team visits all local and state affiliates to examine the implementation of the JAG model. Accredited JAG programs demonstrate a strong commitment to accountability by establishing "best practices" as well as program performance standards to determine success in serving the needs of program participants. Best practices include:

- Use an in-school advisory committee to select all program participants. The selection process should target students with the greatest number of barriers to graduation and employment, as documented on the Student Profile.
- Ensure that all students attain all 37 JAG competencies as prescribed.
- Complete Student Profiles for all students.
- Maintain documentation for all students as prescribed in JAG model.
- Use the National Career Association as an instructional and motivational tool.
- Encourage all students to remain in school through graduation.
- Ensure that 90 percent of participants complete graduation requirements or receive a GED by March 31.
- Achieve positive outcomes among 80 percent of seniors by the conclusion of the nine-month follow-up period.
- Achieve a positive change of status during the follow-up period for at least 50 percent of graduates.

It should be noted that programs that serve the most at-risk students in alternative schools are not expected to achieve the same performance outcomes as programs offered in comprehensive high schools or vocational schools.

The JAG model should not be viewed as fixed, however. We are constantly seeking enhancements to improve quality and performance. At the National Training Seminar, held each July, members of the JAG National Network are asked how best to enhance services and improve outcomes of students involved in a JAG model program.

Implementing the JAG Model

JAG operates on a state-wide basis, usually through the governor, the chief state education officer or the state department of labor. After a state representative contacts the JAG national office, JAG staff help bring together funders, schools and state agencies to discuss the program model. States pay JAG for their services in setting up the model. Each state in the JAG network is organized differently. In Ohio, for example, a state oversight board hires a state coordinator who works with 23 nonprofit organizations. Each of these is responsible for seven to 30 schools and employs an area manager as well as a supervisor and job specialists for each school. In Georgia, the JAG manager is an employee of the state department of labor. The manager oversees state supervisors who work with the job specialist in each high school.

Having worked with 550 high schools over the past 15 years, JAG has identified several critical issues that face local and state decision makers in successfully implementing the JAG model.

Start-up Issues

• **Audience.** It must be determined if there is a sufficient number of at-risk students who are in need of the services to be provided. The JAG model has been used effectively with students in Grades 7-12, alternative schools and out-of-school youth (dropouts).

- **Commitment from both school and employment communities.** It is essential that the employment community and school system enter into a partnership. Both parties must be committed to keeping students in school through graduation and moving them into the workforce immediately following graduation or upon completion of post-secondary education.

- **Ownership.** Knowing that people support what they create, a successful technique for building local or state commitment is to establish a local non-profit corporation to accept oversight responsibilities for school-to-work transition and dropout prevention. This private/public sector oversight body then recruits a board of directors. Board members are key leaders of the community (private sector, government, education, community-based organizations, labor unions and religious organizations) with no less than 51 percent representing the private sector.

- **Goal-Setting.** The oversight body should establish goals to evaluate the success of the program. Goals usually include the reduction of the dropout rate, an increase in the graduation rate and a reduction in the unemployment rate among graduates.

- **Funding.** It is best to secure the appropriate commitments for funding the program for no less than a three-year period. Private sector funds should be sought from corporations, individuals and private foundations. Public sector funds used by various programs in the JAG National Network come from: general funds (state, county, city), local education funds, JTPA (Title IIA, IIB, 8%), Wagner-Peyser (7B), Carl Perkins Act (vocational funds), dropout prevention funds, criminal justice funds, human services funds (JOBS) and school-to-work planning grants.

- **Program Staff.** The success of the JAG program is due in large part to the quality of the program staff-—a manager, job specialists and supervisors. The job specialist is the staff member primarily responsible for approximately 35 to 40 students in the in-school phase and another 35-40 students in the follow-up period. The essential qualities of a JAG manager include: private sector experience, public sector teaching experience, a youth-oriented and results-oriented approach, skill with people, good planning and implementation skills, familiarity with private and public funding sources and a high level of commitment to program accountability. The characteristics of an effective job specialist include: a desire to advocate for youth, high energy, willingness to be a positive role model, street sense, good communication skills, effective teaching/ training skills, assertiveness in contacting employers and others needed to supplement the program, high personal self-esteem, flexibility and commitment to accountability.

- **Planning.** Program staff and the oversight group should prepare the appropriate program planning documents, including a program management plan, a staff development plan, an employer-marketing and job development plan and annual plan information. The JAG national office provides outlines for these plans.

- **Staff Development.** Arrange for JAG Field Services to train new staff, including managers and job specialists. The initial year of training should include three days of initial JAG model training, two days of follow-up training in the fall or winter and in-house refreshers and problem-solving sessions. Program staff should participate in the annual National Training Seminar (held in July) and the Management Development Institute (held immediately prior to the training seminar).

- **Physical Requirements.** You will need to secure adequate office space in a strategic location, furniture, a computer, a telephone and basic supplies. You will also need to acquire instructional resources and a permanent classroom.

In-School Issues

- **Advisory Committee.** Establish in-school advisory committees for the purpose of screening, selecting and supporting students. The committee should include a school administrator (principal or associate principal), counselor, academic teacher (preferably English or math) and a vocational teacher.

• **Access.** Determine when program participants will meet. JAG prefers the program to involve a scheduled, credit course. However, schools also provide JAG services through a non-credit course, unscheduled time, shared time while enrolled in another class or on a rotation schedule in which students meet on a different day or for different class periods each week.

• **Selection Process.** You will need to organize the selection process. This includes arranging advisory committee meetings, student interviews and review of the Student Profile (a JAG form) and school records (grades, test scores and attendance data). The advisory committee must approve the Program Roster, which is submitted to JAG upon completion of the selection process.

• **Student and Parent Commitment.** Secure commitment using JAG's Student Parent Commitment Form. Greater parental involvement is being tested in Maine by placing a computer in a test site that allows the school to communicate with the parents by placing messages in a mailbox. Likewise, parents may send messages to the job specialist or teachers as needs arise. We believe this technological solution can improve communications, commitment and involvement with parents.

• **Career Association.** One of your first key actions is to establish a student-led Career Association. Career Association activities include electing student officers, holding an initiation and installation ceremony, holding chapter meetings and committee meetings, sponsoring social events and community service projects, formally recognizing student achievements and sponsoring competitive events at the local and state levels.

• **Curriculum.** Organize the plans and materials for the 37 JAG employability competencies.

• **Guidance and Counseling.** It is essential to provide for guidance and counseling services for participants that can respond to personal and education barriers that must be overcome to ensure successful outcomes. Each school will need to determine its own best arrangement for providing such counseling, whether using JAG personnel or existing school or community counselors or both.

• **Remediation.** You will need to provide for academic remediation where necessary to overcome basic skills deficiencies. Again, this can be accomplished through a combination of JAG and community resources.

• **Marketing.** It's important to market the program services to the school and employment community. Develop marketing tools including a logo (JAG will develop one upon request), letterhead stationery, envelopes, business cards, labels, a newsletter, direct mail pieces and videos. Arrange for newspaper advertising and public service announcements and hold a press conference about your program to attract the media.

• **Placement.** Develop "quality" job placements, especially full-time jobs, which provide the greatest long-term impact on life-time earnings and advancement. The best jobs for program participants will feature employee benefit packages (health insurance, education financing), training, a youth-oriented attitude among management, effective supervision, advancement opportunities and occupation-specific training like that available from vocational programs, adult classes or night school.

Follow-up Issues

• **Referrals.** It's essential to refer graduates to jobs that match interests and skills.

• **Follow-up Contacts with Employers.** The primary purposes of conducting employer follow-up contacts are to reduce turnover; improve participants' job performance, attendance and attitude; encourage initiative; reinforce positive behaviors; enhance participants' advancement opportunities and explain to employers how working with the JAG program affects their business objectives.

• **Follow-up Contacts with Program Participants.** The job specialists should regularly contact participants after graduation. During these contacts they share with them information gained from employer follow-up contacts, identify barriers to success, establish a plan of action to overcome barriers and establish short-term and long-term goals.

• **Documentation of Outcomes.** It is important to record the status of all program participants to determine the extent of program achievements. You should review whether you have achieved specific outcomes for participants, including nine months of uninterrupted employment experience, minimal periods of unemployment, advancement beyond an entry-level job, improvement in self-esteem, improvement in basic skills (especially reading and math), development of leadership qualities and skills, recognition through the Career Association and development of a vision of the future.

• **Extended Follow-up Services.** JAG programs must provide extended follow-up services to students that have not been employed during the follow-up period. These include participants available for work but unemployed, those enrolled in postsecondary education, those unavailable for work (whether from sickness, being in jail, leaving the area or whatever reason) and non-graduates.

Qualitative Issues

• **Continuous Improvement.** Identify ways to improve program services for current and future program participants. Questions to be asked include, "What can we do better than we're currently doing?" "What should we be doing that we didn't do?" and "What should we stop doing that we're currently doing?"

• **Annual Accreditation Reviews.** Programs need to participate in annual accreditation reviews JAG conducts to determine the extent to which the model has been implemented.

• **National Network Data Base.** Contribute to the National Network Data Base and Research Program. These help to improve services to program participants, to document the successes and areas of improvement in the program model, to improve the understanding of how best to work with at-risk youth in the program and to demonstrate the cost effectiveness of intervening with students even as late as their senior year. Participation also documents the network's ability to decrease the dropout rate, increase the graduation rate, reduce youth unemployment after graduation and increase the rate of employment among at-risk youth.

• **JAG National Summary Reports.** Programs should use management information and research reports from JAG to identify program highlights, identify program specific observations, determine management actions, design in-service program staff and establish objectives for the next year.

• **Accountability.** Demonstrate a commitment to "accountability" by establishing minimum performance standards.

Lessons Learned From Our Experience

Jobs for America's Graduates has spent nearly 15 years operating proven and successful models of school-to-work transition in 550 schools in more than 350 communities. More than 175,000 young people in a variety of rural, suburban and urban areas have been involved in JAG's senior school-to-work program, dropout prevention program or the out-of-school program. Based on our experience, we offer the following recommendations for any school-to-work system:

• **Someone must be held accountable for results.** This can be an institution or an individual, or better yet, both. One of the chief failures of other school-to-work systems, in our judgment, is that everyone, in theory, is responsible, but no one is accountable.

• **There must be clear, quantifiable outcome goals.** Unless goals are specified, it is impossible to determine if the new school-to-work system has made any difference. A system must demonstrate and document a quantitative improvement in the percentage of high school graduates, their academic and employment skills, their employment rate and the quality of jobs they hold. We suggest that someone determine the current "baseline" data (percentages of how the schools and job training system are doing at the moment) and then establish goals for improving those results by a significant amount within three to five years.

• **The people who link the students, schools and employers are the essential feature of a successful system.** Therefore, there must be adequate investment in those people—including fair salaries, extensive orientation and in-service training and the necessary tools to do their jobs.

- **Someone must be responsible for ensuring students' success in the period after graduation.** Too many programs today simply "hand off" young people from one institution to another. The schools complete their work and then turn over students to find jobs on their own or wind up in the job training system. JAG requires that job specialists ensure that young people make a successful transition to work and remain employed for a full nine months. the time considered necessary to assure a genuine attachment to the labor force.

- **A good deal of effort should be devoted to fully engaging employers.** Other school-to-work programs often fail because of their inability to understand the needs of business, especially small business and how to fulfill those needs in order to assure a true partnership. The majority of JAG participants are employed in small and medium-size businesses. Job specialists provide regular on-site assistance to these employers to ensure that problems are solved quickly and that cooperative solutions such as on-the-job training can occur, where appropriate.

- **Young people need to get first-hand experience in how to present themselves and prepare for and secure jobs.** Time and again, JAG young people report that what they find vitally important is the ability to effectively "sell themselves" to employers. This ability comes from learning a consistent set of skills that the private sector considers essential for the interview process and that will also make young people better employees.

- **It is important to share the responsibility beyond public institutions.** Most "systems" turn out to be a system only on paper with one or two individual institutions getting the money and therefore being viewed as "owning" the program. The school-to-work system will not work, in our judgment, unless responsibility is shared by both the public and private sectors. The entire partnership should be held accountable for setting and meeting the desired goals. For that reason, we recommend the formation of a non-profit corporation. Such an organization can bring together leaders of the key institutions that are essential to a successful school-to-work system. Its board of directors should include the top-level people of those institutions, those who make decisions and can make them stick.

- **Partnerships should be developed with national employers to provide quality work-based learning experiences.** JAG has begun developing partnerships with national employers (such as Wal-Mart and Motorola) who are willing to provide work-based learning experiences for young people interested in a particular career field. Those responsible for connecting students with employers need support from state and national organizations.

A Final Word About JAG

The JAG Board of Directors and national staff are committed to helping all states and territories establish state-wide school-to-work transition systems that embrace the lessons learned by JAG over the past 15 years. We believe that vocational education and JAG should partner at the local level by providing JAG students with occupation specific training before and immediately following graduation where appropriate.

Local JAG affiliates are willing to share their brand of school-to-work dropout prevention and dropout recovery programs with those who are interested in the JAG model. While the model may not be for everyone, for people whose priority is reducing the dropout rate and improving the transition of at-risk students into the workforce, it is a unique solution.

Dr. Jimmy G. Koeninger has been associated with Jobs for America's Graduates since its inception in 1980. He currently serves as Executive Vice President of JAG, responsible for the Field Services Operation that delivers technical assistance to all local and state affiliates. He is also the executive director of Health Occupations Students of America. Dr. Koeninger has served as a marketing education instructor and a vocational teacher.

For more information, contact: Jobs for America's Graduates, Suite 200, 1729 King Street, Alexandria, Virginia 22314, (703) 684-9479, FAX (703) 684-9489.

SECTION IV

Keys to Work-Based Learning

Chapter 22: Developing a Learning Plan and Employer Agreement

Chapter 23: Developing Paid Work-Based Learning Experiences

Chapter 24: Successfully Matching Students and Employers

Chapter 25: The Role of Workplace Mentors

Chapter 26: Teaching Workplace Competencies and All Aspects of an Industry

Chapter 27: Creating Work-Based Opportunities in Rural Areas

Developing a Learning Plan and Employer Agreement

By Jill Carpenter and Jim Dawson
Vancouver School District
Vancouver, Washington

Vancouver School District recognizes the value of business/education partnerships to address the problems of contemporary youth and the need for increased relevancy in the classroom. Thanks to an excellent working relationship between our schools and the community, we make a number of work-based learning and training experiences available to our high school students. The work-based learning opportunities offered in the district are listed .on the following page in ascending order by the amount of time required of a business or community partner.

School-to-work coordinators at each high school oversee the Career Focus and Cooperative Work Experience programs. The coordinators meet regularly to share information to improve training and coordination practices as well as to expand the list of placement sites for students. During the 1994-95 school year, the coordinators enrolled 36 percent of the junior and senior class at our high schools (785 students out of an average enrollment of 2,181) in these two programs. Twenty percent (436 students) were enrolled during any given semester. This enrollment involved 441 supervisors at 429 learning sites. Each coordinator is assigned to certain businesses and agency sites to monitor student learners.

Each of the district's three high schools has a full-time school-to-work coordinator and a full-time career guidance specialist. The alternative high school has a full-time school-to-work coordinator who also serves as the career guidance specialist. A fifth school-to-work coordinator is assigned to the VA Career Focus Program, a program that enrolls students from all four high schools. The coordinator and specialist positions are vocationally certified by the state, which means that state vocational funds can be used to staff the positions.

Each high school coordinator also teams with the career guidance specialist at the high school to help connect students with the other work-based learning opportunities and related activities such as job shadowing, mentorships, service learning projects, field trips and guest speakers. This two-person team in each high school career center has proven to be a very effective approach to offering career guidance and work-based learning opportunities. (Job descriptions for both positions are included in the chapter appendix.)

We believe strongly in the value of work-based learning opportunities for all or most students. A list of how work-based learning has benefited our students is shown on the following page. We have spent a lot of time working out the logis-

---

Vancouver, Washington is located in southwest Washington, directly across the Columbia River from Portland, Oregon. *Vancouver School District has a total K-12 student population of approximately 18,000 students. It has three large comprehensive high schools, Grades 9-12, enrolling approximately 1,600 students each, and an alternative high school serving 250 students.*

Vancouver Work-Based Learning Experiences

Job Shadowing	**Students watch and question people as they perform their work.**
Advantages:	• Provides youth a realistic view of the workplace. • Heightens awareness of careers in today's job market. • Provides exposure to an unfamiliar occupational area.
Employer Commitment:	From one hour to a full work day.
Mentorships	**Community members and employers work with individual students as part of a career awareness process.**
Advantages:	• Provides youth with an adult who will serve as advisor or coach. • Demonstrates relevancy of basic skills to success in the workplace. • Identifies particular skills and knowledge an employee needs on the job. • Provides a learning activity, not an actual job.
Employer Commitment:	From one hour to several days.
Service Learning	**Students participate in community projects.**
Advantages:	• Provides an opportunity for students to make a community contribution. • Enhances student pride, self-esteem and practical life skills. • Uses the community as a positive resource for educating youth. • Provides a source of energy and talent to complete various community projects. • Increases relevancy of students' academic activities by linking studies in the classroom with application of knowledge in the community.
Employer Commitment:	One hour, several days or up to one school year, helping students participate.
Career Focus Internships	**A non-paid work-based program that places students in public agencies and private companies as volunteers. Juniors and seniors receive credit for daily two- to six-hour learning experiences over the period of a semester.**
Advantages:	• Develops work readiness skills and responsibility. • Allows students to explore career options. • Reinforces the importance of education and training. • Acquaints students with the real world of work. • Provides students with a means of earning credit outside the classroom.
Employer Commitment:	Provide structured training and supervision of students throughout a semester.
Student Commitment:	Must attend related instruction to reinforce employability skills.
Cooperative Work Experience	**In this paid work-based learning experience, employers and educators work collaboratively to define the skill requirements, assist in shaping the curricula and hire and train students through structured on-the-job training.**
Advantages:	• Demonstrates relevancy of academic and technical skills needed on the job. • Provides an opportunity to gain on-the-job knowledge of technical skills. • Provides students with on-the-job training by a skilled employee. • Students receive one credit for 405 hours of paid work experience.
Employer Commitment:	Provide training, supervision and wages for students throughout a semester or year.

tics of placing students in work-based learning, including how to develop an individualized training plan for student workers and how to deal with issues like liability insurance and supervision of students. We hope insights from our experience will help your partnership work out the details of work-based placements.

Our VA Career Focus Program

The VA Career Focus Program, operated in cooperation with the Veterans' Affairs Medical Centers in Portland, Oregon and Vancouver, Washington, illustrates the school district's non-paid work-based learning experience program. VA Career Focus provides an opportunity for students to learn about the adult workplace through hands-on experience in a wide range of learning sites. The medical facilities where students work conduct research and provide a variety of acute medical, surgical, psychiatric, neurological and extended care services. They also provide house support services including grounds and facility maintenance, fiscal and accounting, credit union, travel, laundry, freight and warehousing, canteen and retail stores and extensive administrative services. Currently, this program places about 100 students in almost all these phases of hospital operations.

Creating a Learning Plan

The procedures we use in our VA Career Focus Program to create individualized student learning plans help illustrate a number of the variables that affect the development and content of such plans.

We begin the development of an individualized learning plan with a meeting between the school-to-work coordinator and the human resources supervisor or the person responsible for personnel, educational affairs or voluntary services in the cooperating agency. This individual will usually present the program to their staff and ask for involvement by individuals interested in working with a high school student. Employees that get involved in the program are called learning site supervisors.

Benefits of Work-Based Learning

- Studies have shown that students enrolled in our VA Career Focus program have improved their regular class attendance by 75 percent, while their grade point averages have increased by 30 percent.
- A follow-up study of the 1992 seniors enrolled in VA Career Focus found that out of 90 students one-third were enrolled in college the year after they graduated from high school (Office of Personnel Management, Personnel Programs and Evaluation Division, March 1993.)
- Work-based learning provides employers with a pool of potential employees that they already know both as individuals and as workers. The employer has the opportunity to train a potential employee in how things are done at that worksite before actually hiring him or her.
- Data from the VA Career Focus Program shows that when a young person is brought into the workplace under the program, the morale, productivity, efficiency and quality of work of the adults increases.

In the case of VA Career Focus, the school-to-work coordinator works with administrative, professional and paraprofessional staff at each medical center to develop what we call a vocational training plan for each position in which a student will be placed. These training plans (see sample Vocational Training Plan on following page) are essentially job descriptions. The coordinator helps the learning site supervisor identify the specific tasks for the training plan by asking, "If you had an ideal student who could work on the job and provide benefits to you, what would they do?" In the VA Career Focus the plans outline learning tasks and responsibilities for the student that will enhance the Medical Center department's ability to deliver quality health care to veterans without

VANCOUVER SCHOOL DISTRICT NO. 37

605 N. Devine Rd. P. O. Box 8937
Vancouver WA 98668-8937
Phone: (206) 696-7217

CAREER FOCUS
VOCATIONAL TRAINING PLAN

Worksite: INFORMATION RESOURCES MANAGEMENT Address: PORTLAND, 6/114 IRM P

Supervisor: KEITH SMITH/MIKE BERRY Phone No.: 696-4061, x-5905

CF Coordinator: Jim Dawson Phone No.: 696-7033

Job Title: ASSISTANT PC TRAINEE III

Days of the Week: M - F Hours per Day: 12:00 - 4:00

The student will Perform and be assessed by the worksite supervisor in the following task/skill areas in addition to the core work maturity competencies.

JOB TASKS

1. Inventory of hardware/software.
2. DOS usage: disks, directories, copy, xcopy, mkdir, rmdir, del, printing, type, edit.
3. General software installs.
4. Laplink.
5. DHCP access setup RS232: Procomm, terminal, Install, setup, use.
6. Printsharing: setup, A/B & autoswitching.
7. IC card identification, installation, and use of MSD.
9. Windows desktop configuartion/terminology.
9. Network cable construction/handling.
10. NIC installation: IRQ base ads.
11. Netware login/use.
12. Network software upload/download.
13. Print console, use and care.
14. System console, use and care.

Special Considerations/Comments:

Requires ability to follow directions, interest in technical operations, accuaracy, attention to detail, and ability to work with limited supervision, high integrity and confidentiality.

VA Career Focus
Tier Identification System

Tier	Student	Work-site
I	• Goals unfocused • Seeking career ideas • Willing to work, but undisciplined	• Understanding mentor • Low level expectations • Close supervision available
II	• Motivated toward general goals • Exploring career options • Has some skills and able to work with moderate supervision	• Flexible mentors with varied skills • Mentor willing to allow exploration • Moderate expectations with less supervision, mistakes expected
III	• Highly motivated, focused goals • On career track, knows what's needed • Mature, works well independently	• Highly skilled mentor with patience • Supplemental training available • Workplace willing to let student work independently part of the time

displacing paid employees. Vocational training plans for each position are developed before students are chosen for the positions.

This is an ongoing process affected by changes in staff, needs of the learning site, problems with students assigned, burnout of learning site supervisors and many other aspects of the human equation.

Tier Identification System

The coordinator and learning site supervisor then select a "Tier Level" for each position based on the nature of the learning site and other variables described in the Tier Identification System. (See Tier Identification System above.)

This Tier System facilitates communications between the referral source, student and learning site. Because training plans are developed prior to recruitment of students, the plans can serve as a collection of job descriptions that help students identify potential learning sites of interest. Tier I and Tier II students frequently lack the experience or awareness to relate an abstract career or job title to tasks they like doing. Having detailed training plans in place communicates learning site expectations to students, builds awareness of how their interests may apply to a career and often provides a launching pad for goal setting. This system additionally provides a way to measure several aspects of student growth such as maturity.

Individualized Training Plans

Once a student has been selected and placed at the learning site, the school-to-work coordinator and learning site supervisor work with the student to develop an individualized training plan, which is incorporated into the Student Training Agreement. (See sample of basic Student Training Agreement, in chapter appendix). This is a plan for how this individual student, working in these particular circumstances, will accomplish the tasks identified in the Vocational Training Plan. Upon completion of all the tasks listed on the Vocational Training Plan, a new agreement is made. The plan is also used by the supervisor to evaluate the student's proficiency.

Updating the Training Plan

The individualized training plan is very fluid and can change frequently. During the first two weeks enrollment in the VA Career Focus

Program, most Tier I and Tier II students begin to demonstrate more mature behavior similar to that modeled by adults at their learning site. Some Tier III students may find the career path they had chosen different from what they expected.

As students develop greater understanding of the workplace and their abilities, their training plan and assigned tasks at the learning site need to change with them. Many learning site supervisors understand this intuitively and expand the duties and learning opportunities for their student. In some cases the coordinator needs to meet with the learning site supervisor and student to discuss appropriate challenges for the student.

Some learning sites may have limitations that require assignment of a student to a new worksite. In a few cases, the student and coordinator may discover previously unknown aspects of personality or character require complete overhaul of the learning plan and/or assignment to a new learning site.

Factors Affecting Training Plan

There are several key factors that affect how student training plans will be structured. Four of these variables, discussed in detail below, include:

- Objectives of the work-based experience
- Connecting activities between the school and learning site
- Specific needs of the learning site
- Developmental level and interests of the student

Objectives of Work-Based Experience

The overall objectives you have established for work-based experiences for students will affect what kinds of tasks, goals and timelines need to be included in individualized student training plans. For example, in Career Focus Program, we consider the following objectives the foundation for our work-based learning experiences and student training plans:

- Enhancement of academic learning toward high school graduation.
- Development of pre-vocational skills such as interviewing, time management, communications, peer relations, dependability and workplace ethics through program design, modeling and supplemental seminars.
- Employment and career path development through mentors and expanded awareness.
- Training in specialized areas related to career development.

The program coordinator needs to be sure that the training plan developed for each student includes the skills included in our basic program objectives. Employers need to understand the overall objectives of the program, particularly regarding the high quality of learning experiences the employers are expected to provide.

Connecting Activities

In addition to earning occupational or elective credit for participation in a VA Career Focus program, our students have the opportunity to develop an Independent Study-Academic Credit Contract. This is a contract to perform independent study in a specific subject area in cooperation with a teacher, counselor and administrator at their home school. This Independent Study Contract on the next page becomes an addendum to that student's training plan.

This activity allows students to identify a subject area they know applies to their work-based learning site and in which they need credit for graduation. For example, a student working in the dental department of Portland VA Medical Center needed credits in English. She wrote a contract to study the availability of dental resources for minorities, her thesis that minorities were discriminated against in this regard. To prepare her paper, she read and conducted research, interviewing dentists and dental assistants and exploring her own and other neighborhoods. The paper, with graphs and a bibliography, indicated that the distribution of dental resources is based entirely on income, not race: Dental offices are more prevalent in high income areas.

Workplace Readiness Seminars. Students enrolled in the Career Focus program must attend biweekly seminars related to general workplace awareness. These seminars are usually conducted

VA Career Focus Program

Independent Study - Academic Credit Contract

Student ______________________ School ______________ Date ______________

Area of Credit ______________________________ No. of Credits ____________

1. I choose to learn/my question is:

2. I will complete the following investigations and activities in order to accomplish my learning outcomes (Attach extra pages if necessary.) :

3. I plan to use these resources (Attach extra pages if necessary.) :

4. I will demonstrate quality learning in the following ways (Attach extra pages if necessary.) :

5. Contract completion date: ______________ (Contract must be completed one week prior to the end of the term in which credit is expected.)

Student ______________________________ Date ______________

Counselor ______________________________ Date ______________

Cooperating Staff ______________________________ Date ______________

Administrator ______________________________ Date ______________

Program Coordinator ______________________________ Date ______________

September 1, 1995 VACF Independent Study Contract at the school by the coordinator. These seminars enhance the students' learning experience and provide information about important and timely workplace topics such as program rules and expectations, workplace health and safety, sexual harassment, equal employment opportunity, application and interview processes, communicating with others, working in teams and problem-solving on the job. Each student has a training record to verify completion of the seminar topics by the end of the training period. A sample of the Student Training Record is in the Appendix.

The seminars for the VA Career Focus Program are held at the Medical Center because of the number of students participating. Topics specifically related to the learning site, such as infectious diseases and universal precautions, are also addressed.

Needs of Learning Site and Level of Student

Individual employers also have specific objectives for participating, such as developing a pool of potential employees, or, in small companies, training a potential employee for a full-time position. These needs, along with the developmental level of the student in terms of career interest and the student's potential, will affect how you match students to the site and structure individual training plans.

Matching Students to the Site. Information on the work-based learning opportunities are described in the high school student forecasting handbook or curriculum guides. Students are guided into the Career Focus program by their respective high school counselors/career guidance specialist and vocational teachers, on the basis of academic need and individual career interest. Students receive Career Focus Program information and guidelines (See Appendix) from the school-to-work coordinator regarding transportation, first day class begins, appropriate dress, parent sign-offs and so on.

If the counselor and student decide Career Focus looks like a good option, the student completes an application form which is given to the school-to-work coordinator and the counselor forecasts the appropriate time block in the student's schedule. The application provides information that helps identify student habits, self-awareness, goal orientation and motivational level.

After receiving the form, the school-to-work coordinator schedules a personal interview with the student to explore interests in specific types of learning sites and identify issues that may interfere with student success. Information from the application and this interview help establish the appropriate Tier Level for the student and, simultaneously, additional learning objectives appropriate for personalization of the training plan for this student.

After the student and coordinator have determined a likely training site, the student receives information to contact the supervisor of the training site to schedule a job interview. This interview provides the student and potential supervisor an opportunity to ask each other questions, similar to an interview for a paid job and to review the learning plan for this position.

Working Out Logistics/Expectations

In working out an agreement with employers for how work-based learning will be provided, there are key logistical and legal issues you will need to address. It is also essential that you make clear to employers—and be certain they understand—what is expected of them in providing a work-based experience.

Communicating Expectations to Employers

The easiest way to communicate expectations to employers is to have a working model for potential employer participants to visit. And the most effective "salespeople" for a work-based learning program are the students themselves, at the learning site.

The major issues to be addressed with the primary employer contact (usually the vice president of human resources, company president or agency personnel official) are the quality and duration of training experiences and the kind of on-site supervision (mentoring) required. Both should be clarified when discussing the objectives of the program.

It is also important to establish clear procedures regarding issues such as emergencies, attendance and communications with the coordinator and/or school.

Liability and Transportation Issues

We researched and discussed the issues around liability, insurance coverage and student transportation at great length when the Career Focus program began. The attorney and insurance agency representing the school district helped district administrators develop a generic liability agreement and student travel authorization form that could be used for placing students at any business site.

Liability. Students must be insured at school and work. If a student is producing work, he or she is considered an employee of that site and falls under the employer's workers' compensation coverage. Therefore, students in paid work-based learning situations are covered by the employer.

Students involved in non-paid work-based learning situation are usually considered to be "learning" at the workplace and therefore continue to be covered by the school district. The school district may add a separate insurance rider to its insurance plan and budget additional monies to cover accidents during such a program. Or employers may prefer to cover the unpaid students through their own policy.

In Washington state, the Department of Labor and Industries has a category entitled "volunteer." For workers in this category, the business site pays only five cents per worker hour for company liability protection. This provision, unique in the United States, provides an incentive for businesses to participate in non-paid work-based learning programs. It also helps small school districts, which can't afford to add a separate rider, attract learning sites. The Work-Based Learning Liability Agreement, shown in the appendix, is completed for each position prior to placement.

Student Transportation. Liability for student transportation rests with the party responsible for that transportation. If the school district is transporting students, then normal school bus coverage applies. If a student drives, he or she must complete a Student Travel Authorization Form (shown in the appendix). Student drivers are not allowed to transport any other students to and from a work-based learning site that is sponsored by the district and/or during regular school hours. If a state does not require automobile insurance for drivers, the school needs to maintain a copy of the student's auto insurance on file with the Authorization Form.

Hours and Attendance

The school-to-work coordinator meets with the employer to determine working hours for the student or students. The decision is based on the need and capacity of the employer, what fits with the school schedule and the student's ability and motivation.

In the Career Focus programs, students spend from one to three class periods plus up to three additional hours outside the school day performing unpaid work at their learning site. They must enroll for an 18-week semester and may continue in the program for additional semesters if acceptable to their supervisor or if they qualify for assignment to other learning sites.

The school-to-work coordinator is responsible for checking the students' daily attendance. Career Focus students complete a weekly time sheet similar to one found at the worksite

Supervision

The learning site supervisor works one-on-one with a student to teach job tasks and also becomes a personal support and mentor for that student. The selection of this supervisor/ mentor is an employer decision. The school-to-work coordinator discusses with the employer the type of person it takes to work well with young people. After supervisors have been selected, they receive one-on-one training with the coordinator.

The supervisors in the VA Career Focus Program meet as a group twice a year to discuss working with kids and to share problems that come up and how they have been handled. During this open forum, the coordinator reviews emergency procedures and program changes. Supervisor input is encouraged.

The learning site supervisor uses the Student Training Agreement to evaluate the student's job skills and the Student Performance Review to assess broader workplace skills. These evaluations are completed on a regular basis, ranging from once a month to quarterly.

Maintaining Communication

With Learning Sites. The coordinators meet regularly with the learning site supervisors and are available by telephone and beeper. This access is critical to the success of a program.

The coordinators maintain a personal contact log to record and document daily communications and personal contacts. This becomes a good source of information for documenting any communication regarding student or program issues, problems and needs concerning the learning site and the school district. To improve the efficiency, quality and quantity of documentation, coordinators began testing a dictating machine during the 1994-95 school year.

Among School Districts. The school-to-work coordinators throughout southwest Washington have developed a computerized database to keep track of their worksite contacts and student placements. This enhances cooperation between school districts and reduces the potential for competition for job sites.

Work is under way to put the database on the Internet. This will enhance the coordinators' ability to communicate with each other and the business or agency sites and also provide a better means for documenting student attendance, discipline issues, transportation issues, training goals and any other communication needs.

Conclusion

With almost three-fourths of all high school students working in part-time jobs during the school year, Vancouver School District is seeking to play an increasingly influential role in helping to place students in jobs with promising futures—those with benefits, upward mobility and paid training for continued education in a chosen career. Examples of these types of placements can be found in many federal agencies such as the Veterans' Affairs Medical Centers and the U.S. Forest Service and in small- to medium-size businesses. Most of the jobs require good communication skills and technical training. The Career Focus and Cooperative Work Experience Programs are a promising beginning toward developing even stronger work-based learning opportunities for students that lead to quality employment and/or continued career education after they graduate.

Dr. Jill Carpenter is the executive director for vocational-technical and career education in Vancouver School District. She plays a key leadership role in restructuring secondary education in the district. Her 15 years of administrative and teaching experience in vocational-technical education at the secondary and postsecondary levels include working in the Alaska bush, Colorado and Washington.

Jim Dawson is the school-to-work coordinator for the VA Career Focus Program in Vancouver School District. In his three years in this position, he has expanded the program to include more training sites and partnerships while enhancing students' academic learning. He was an elementary school principal, associate principal and teacher and worked in the business community for a number of years.

For further information on the Vancouver work-based learning programs and how they develop student training plans and employer agreements, contact the Vancouver School District, P.O. Box 8937, Vancouver, Washington 98668-8937.

School-to-Work Coordinator Job Description

Responsible To:
High School Principal

General Duties and Responsibilities:

The School-to-Work Coordinator shall be responsible for the coordination, implementation, monitoring and evaluation of all learning/training sites for students enrolled in the Career Focus and Cooperative Work Experience programs. The coordinator will be located at an assigned high school.

Specific Duties and Responsibilities:

- Coordinates and monitors all work-based learning sites for students enrolled in the Career Focus/Cooperative Work Experience program at the high school. They will also assist the Career Guidance Specialist with job shadowing, service learning, mentorship experiences, and other related work-based learning activities.
- Maintains close contact with appropriate vocational teachers, counselors, and administrators in the district as students enroll in the Career Focus or Cooperative Work Experience programs.
- Serves as a contact person for receiving concerns, providing information, handling referrals, and in general, assisting in the operation of the Career Focus/Cooperative Work Experience program.
- Provides job related learning/training seminars for students enrolled in the program.
- Initiates and coordinates new learning/training site options in Clark County and Portland area.
- When necessary, arrange and monitor student transportation to and from learning/training sites.
- Provides an orientation and mentorship information and training for site supervisors to be able to work with students.
- Provides an orientation of the overall program to students and their parents.
- Evaluates student progress on a periodic basis.
- Maintains appropriate communication with students' parents enrolled in the program concerning student attendance and progress.
- Maintains student attendance records in compliance with state guidelines.
- Maintains a log of coordinator communications and activities with students and site supervisors.
- Monitors students at learning/training sites and communicates progress with site supervisors.
- Provides counseling and support services to youth involved in the program.
- Intervenes/advocates on behalf of students when appropriate.
- Acts as liaison between the business community, students, parents, counselors, and teachers.
- Maintains and has available for use a personal automobile to accomplish duties required for the performance of responsibilities assigned to this job description.

Career Guidance Specialist Job Description

Responsible To:
High School Principal

General Duties and Responsibilities:

To help students make future career decisions by providing related career guidance activities and information.

Specific Duties and Responsibilities:

- Implement a process for helping all students develop a personalized education and career portfolio.
- Coordinate career guidance activities and information with counselors and instructional staff.
- Develop and implement a plan to promote career education awareness.
- Coordinate, administer, and interpret aptitude and interest tests.
- Provide education and training information to students on both a one-to-one and group basis.
- Develop and teach classroom mini-units on self-esteem, assessing one's values, interests, and skills and learning how these relate to career choices.
- Keep abreast of current and future employment trends.
- Provide general information on career/education topics via newsletters which would be sent to all parents and used in classroom instruction.
- Organize career fairs and seminars, and maintain a listing of guest speakers to help supplement current school information.
- Assist with registration and supervision of students enrolled in work-based learning programs.
- Serve as a resource to teachers by providing job shadowing and internship experiences for them.
- Create a job bank of work experience opportunities for current students.
- Assist middle school counselors and career facilitators to infuse career guidance awareness activities and begin the portfolio process.
- In coordination with school counselors, provide assistance to students in the selection of post-graduation educational and/or training opportunities.
- Maintain informational materials on colleges, vocational-technical training programs, military options, apprenticeship programs, and financial aid.
- Supervise the career center clerk and vocational assessment assistant.

VA CAREER FOCUS

STUDENT TRAINING AGREEMENT

Student Name ______________________________ ID Number ____________
Last First MI

Address ______________________________ Home Phone (___) ___-____

SS# ___-___-____ Start Date __/__/__ End Date __/__/__ #Hr/Week ________ Total # Hrs ________

Worksite: ______________________ Address: ______________________

Supervisor: ______________________ Phone No: ______________________

CF Coordinator: ______________________ Phone No: ______________________

Student Employee agrees to accept, and Parent/Guardian support, the following responsibilities:

1. Maintain regular attendance in school and at the training site, follow all rules concerning the program, and notify the school/program and employer prior to any absence.
2. Show honesty, punctuality, a cooperative attitude, proper grooming and dress, and a willingness to learn.
3. Consult the program coordinator or supervising teacher, as well as the employer, about any problems.
4. Conform to the rules and regulations of the training site, and maintain confidentiality.
5. Complete required assignments and furnish necessary information, reports, and timesheets.
6. Ride only school authorized transportation to and from the training site.

Date: ___/___/___ Student Signature: ______________________

Date: ___/___/___ Parent Signature: ______________________

Training Site Supervisor agrees to accept the following responsibilities:

1. Provide thorough orientation to the job and training site, as well as a meaningful, well-supervised work experience.
2. Provide evaluation of performance, time for consultation with, and on-site monitoring visits by authorized staff.
3. Keep and complete accurate attendance and/or time records, as required.
4. Consult the program coordinator/teacher regarding problems related to the work experience, and contact promptly before considering suspension, transfer, or termination.

Date: ___/___/___ Supervisor Signature: ______________________

The School or Program agrees to accept the following responsibilities:

1. Conduct training site visits as indicated by school or program guidelines.
2. Provide training site with a liaison to assist in explaining requirements, completing paperwork, resolving problems, and otherwise helping the youth and supervisor maximize work performance and learning opportunities.
3. Assist student in achieving educational goals and preparing for a chosen career.

Date: ___/___/___ Signature of School/Program Coordinator: ______________________

VA CAREER FOCUS
STUDENT TRAINING AGREEMENT

To be completed by Training Site Supervisor in conjunction with Student and School/Program Coordinator:

Job Title: ______________________ Career Objective: ______________________

Work Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

JOB TASKS

The student agrees to perform the following tasks in addition to the core work maturity competencies listed on the Student Performance Review form. The Learning Site Supervisor will evaluate the student's proficiency on these tasks mid-term of the training period by circling the appropriate number (see key below). A new Training Agreement reflecting student growth and new training goals should then be completed for the remainder of the term.

1. ______________________ 1 2 3 4 5
2. ______________________ 1 2 3 4 5
3. ______________________ 1 2 3 4 5
4. ______________________ 1 2 3 4 5
5. ______________________ 1 2 3 4 5
6. ______________________ 1 2 3 4 5
7. ______________________ 1 2 3 4 5
8. ______________________ 1 2 3 4 5
9. ______________________ 1 2 3 4 5
10. ______________________ 1 2 3 4 5

(Attach other sheets as needed)

Special Considerations: ______________________

____

Comments: ______________________

____

Evaluation Date: __________ Evaluating Supervisor's Signature ______________________

1 = Student having difficulty with this task. 2 = Student learning this task. 3 = Student performing this task adequately.
4 = Student completing this task with minimal supervision. 5 = Student excels at this task.

VACF Student Training Agtreement 8/15/95

VA Career Focus
Student Training Record

Student Name ______________________ Date ________________

Topic	*Date Completed*	*Initials*
VA Enrollment Form	________	______
Student Contract	________	______
Infection Control & Precautions	________	______
Harassment & Equal Opportunity	________	______
Review of Student Guidebook	________	______
PPD, Hepatitis Vaccinations	________	______
Fire Safety, RACE Procedures	________	______
Accident Prevention and Reporting	________	______
General Safety	________	______
Chemical and Waste Handling	________	______
VA Rules and Laws	________	______
Confidentiality	________	______
Attendance, Leave & Absences	________	______
School Credit & Grading	________	______
Interview Appointment and Interview	________	______

September 1, 1995, VACF Training Record

Work-Based Learning

Program Information and Guidelines

The following guidelines were developed to give to interested students and their parents, other educators, and potential learning site supervisors:

Enrollment Process: Students are enrolled by their respective high school counselors on the basis of academic needs and individual career interest.

Credit: The Career Focus Internship Program is an alternative learning credit program: 90 hours of non-paid community based experience earns .5 elective credit with a maximum of 3 elective credits per year.

The Cooperative Work Experience Program is a paid employment and credit program: 405 hours of paid work experience earns 1 elective credit with a maximum of 2 elective credits per year.

Seminars: Students are required to participate in a series of seminars focusing on job related work maturity skills.

Student Responsibilities: Students participating in a work-based learning program have the responsibility of attending class regularly, utilizing the transportation provided, and communicating needs, absences, and special concerns to the School-To-Work Coordinator.

Supervision: The School-To-Work Coordinator supervises the overall program and work with the learning site supervisors to evaluate student performance and communicate special needs or arrangements with parents and high school staff. Student learning site supervisors are selected on the basis of: 1) ability to communicate, 2) a desire to participate, 3) work experience, and 4) a positive attitude.

Attendance: Students must follow participating agency, business and school district attendance policies. The regulations will be explained in an orientation process.

Transportation: Students participating in credit programs, with the exception of those that are within walking distance, will be provided transportation to their experience site and back to school.

Parent Involvement: Parents are asked to participate in an orientation and are invited to program open houses.

Dress Code: Students must adhere to the dress and uniform policies of the cooperating social agency, business or school district departments.

WORK-BASED LEARNING LIABILITY AGREEMENT

THIS AGREEMENT made and entered into this ______________ day of________, 19______, by ____ (Learning Site) and Vancouver School District No. 37, Clark County, Washington (District).

WHEREAS, the parties desire to establish and implement the education programs described in Attachment "A" (Program);

NOW, THEREFORE, it is mutually agreed as follows:

1. Learning Site will provide occupational and training experience as described in the attachment(s). District will provide coordination and support for the students in the program. District staff will meet or confer with Learning Site personnel, during hours as arranged, to respond to requests from Learning Site personnel who work with District's students and to perform such other services as may be necessary or advisable to the Program, including, but not limited to, evaluation, observation, and counseling of participating students.

2. The Learning Site will advise the District of the skills that students will be expected to have prior to participation in the Program. Promptly upon commencement of the Program, the Learning Site will instruct students with respect to safety precautions and regulations related to the activities of the students under the Program. Students will abide by all rules and regulations of the District and the Learning Site in connection with their activities hereunder, including conduct and general appearance rules. The Learning Site reserves the right to deny any student participation or continued participation hereunder.

3. District will deliver to the Learning Site a Work-Based Learning Student Travel Authorization and Consent form covering each student enrolled in the Program.

4. The Learning Site will provide the clinical learning situation, instructional materials, and equipment necessary to provide an adequate learning experience.

5. In the event of injury or accident, the Learning Site will provide immediate emergency care based on humanitarian considerations and will promptly report the incident to the District. The District will complete an accident report form just as if the incident had occurred on District property. District students participating in the Program will be covered by District liability insurance while at the Learning Site. District liability insurance does not cover travel on aircraft or water craft, and such activities are prohibited.

6. District agrees to indemnify and hold harmless the Learning Site, its officers, agents and employees from any and all claims and losses resulting from District's performance of this agreement. The Learning Site agrees to indemnify and hold harmless the District from any and all claims and losses resulting from Learning Site's performance of this agreement.

7. The parties agree to comply with all laws, ordinances, and regulations of governmental bodies applicable to the Program.

8. The parties agree to cooperate in evaluation of the Program and the students enrolled in the Program.

9. The Learning Site and the District agree to instruct all students enrolled in the Program with respect to the confidential nature of all records and information.

10. The terms of the Agreement are effective from ______________________ (date) to __________________________ (date). Additional dates and times may be contained in the attachment(s). Either party may cancel this Agreement at any time upon written notice to the other given at least three (3) days prior to the stated cancellation date. This Agreement may be amended by written mutual agreement of the parties.

____
Learning Site Representative

Name: ______________________

Title: ______________________

Address: ____________________

____

Date: ______________________

____
District Representative

Name: ______________________

Title: ______________________

Address: ____________________

____

Date: ______________________

VANCOUVER SCHOOL DISTRICT NO. 37
WORK-BASED LEARNING

STUDENT TRAVEL AUTHORIZATION AND CONSENT FORM

Vancouver School District offers a work-based learning program as a means of providing relevant learning and training experiences. The program is described in Attachment "A". This program is voluntary and in order to participate, the student and parent must accept the following responsibilities:

- Provision for transportation to and from the learning/training site and school or home will be made by the student and parent. If a student is driving, transporting another student is *not* permitted.
- Proof of auto insurance and the student's driver's license must be provided with copies attached to this form.
- Regular student attendance will be maintained. The student will arrive to the Learning Site on time and return to the school or his/her home on time:

Learning Site: ______________________ Telephone: ______________

Address: ____

Learning Site Time Begins: ______________

Learning Site Time Ends: ______________

Time Back at School or Home: ______________

Student will promptly inform learning/training site supervisor of any absence due to sickness, home school activity, or other reasons for absence.

Since participation is voluntary and the District is not supervising or controlling the student's transportation, the student and his/her parents or guardians will defend and hold harmless the Vancouver School District and the Work-Based Learning Site from any and all claims and losses resulting from student travel between sites.

Student Signature: ______________________ Date: ______________

High School: ______________________ Grade Level: ______________

The undersigned parent/guardian hereby consents or agrees that his/her student is permitted to enroll and participate in the Work-Based Learning Program described in Attachment "A" and attached to this form and hereby agrees to the terms and conditions set forth in this authorization and consent form.

Parent/Guardian Signature: ______________________ Date: ______________

Work Telephone: ______________ Home Telephone: ______________

Alternate Contact Person: ______________________________

Work Telephone: ______________ Home Telephone: ______________

CHAPTER 23

Developing Paid Work-Based Learning Experiences

By Elyse Topolsky and Marlene Owens
School District of Philadelphia
Philadelphia, Pennsylvania

For many years, businesses have been vocal about their displeasure with the public school system and its preparation of young people for the world of work. A school-to-work system that includes paid work experience provides students with the financial and academic resources to become financially independent and prepared for the choices they must make about the world of work. When making a monetary commitment, the employer expects more of the student and the work-based learning program and is more likely to become involved in making both successful. Paid work-based learning experiences share responsibility for student achievement among the student, school and workplace.

Since 1973, the School District of Philadelphia has been committed to providing high school students in upper grade levels paid work-based learning as part of our school-to-work system. We have discovered that, although unpaid work experience can also be very valuable, there is an added dimension for both students and employer of work that pays. And we have discovered strategies that work for arranging paid work-based learning.

Advantages of Paid Work-Based Learning

Businesses understand that schools are not equipped to provide education and training for the fast-paced growth of technology in the workplace that our children will face in the future. When youth are trained by employers through a highly structured system that includes the integration of technology with rigorous academic preparation, businesses do not have to provide as much technical training to employees just out of the school system. Employers can hire high school graduates knowing they are already competent in specified technical and academic areas. When an employer does not have to provide new hires technical training or review basic skills, that business increases production time and can save millions of dollars.

Paying student learners often leads to more commitment from both sides. Employers have told us that having a committed work-based learner energizes the whole workplace and encourages employees to relearn their jobs. Employers also use work-based learning as a method to teach employees management skills that raise their level of competency.

Most employers understand the need for a paid work experience as a way to make the student responsible to the company. Receiving a salary increases a student's awareness (and others) of his or her accomplishments and upgrades his or her level of responsibility. This added sense of responsibility and investment motivates students to make the most of their experiences—to learn all aspects of an industry and gain awareness of varied levels of competency.

A check from an employer is also great for public relations. When a student brings home a company paycheck the student's family and community can see what that company has done for their child and their community.

Our School-to-Work System

The School District of Philadelphia began its school-to-work initiative in 1992. This initiative is built on a long-standing program of unpaid work experience and work experience is still unpaid at lower grade levels. Ninth graders participate in job shadowing programs, observing employees in specific job occupations. Tenth graders are required to complete community service projects with local neighborhood programs and organizations. All activities at these two levels are unpaid. Work-based learning programs operate in the eleventh and twelfth grades and require students to have a specific and individual career focus. This segment of the school-to-work program now provides a paid work-based learning experience.

In 1993, the district operated two school-to-work programs, Health Tech 2000 and Manufacturing, with 142 eleventh and twelfth graders placed in paid work experiences. In the second year (1994-95) four more programs were added: Business/Finance; Hospitality, Restaurant and Tourism; Printing/Graphics and Transportation. Participation in paid work experience increased to 400 students assigned to approximately 200 employers. Twenty of the 22 comprehensive high schools in Philadelphia, three of the four area vocational-technical high schools and one magnet school (School of Engineering and Science) now operate a total of 50 school-to-work programs in these industrial areas.

We expect to have 1,000 juniors and seniors in paid work experience for the 1995-96 school year. This represents about two percent of all 55,000 high school students in the district. The system's goal is 10,000 work-based learners in paid positions by the year 2001.

After just two years we have begun to see positive outcomes among the students in paid work-based learning. All have higher grade point averages and a higher school attendance rate than when they began the program. Of the seniors in the first year of the program, 100 percent graduated from high school. Eighty percent went on to postsecondary education and 20 percent to full or part-time employment. For the juniors in the first year program, 100 percent were promoted to the twelfth grade. The retention rate for both classes was 99.6, with only one student in the program leaving school during the year. These statistics are well over the average in Philadelphia.

Recruiting Employers for Paid Work

Each of our six school-to-work program areas has a coordinator, housed at the school district offices. A stakeholder group of employers, union leaders and others involved in the industry serves as the board of directors for each program area and determines its policy and direction.

One of the major responsibilities of each program coordinator is to recruit from their industry employers who will be willing to provide paid work experience for eleventh and twelfth graders. They do this in three ways: 1) recruiting employers already involved with the schools through work experience or other programs, 2) recruiting new employers and 3) recruiting contacts developed by the program's stakeholder group.

Recruiting Existing Business Partners

This approach builds on existing relationships and helps develop support for the school-to-work system within a company. The coordinators develop a list of existing contacts in each industry by surveying high school teachers to find out what they are doing with local businesses and to identify individuals to contact at these businesses.

The teachers then call each of their contacts to set up a meeting including the contact person, the teacher and the coordinator to explain the program and ask for support. If the contact does not have the authority to commit the company to getting involved and providing paid experience, the coordinator asks him or her to present the idea to the appropriate decision maker, usually the vice president of human resources or the chief executive officer. The contact arranges a meeting with that individual, at which the coordinator again explains the school-to-work system and asks the business to become involved.

Several key points the coordinator emphasizes to help persuade employers that providing paid work experience is worth the expense are:

- The interconnection of the work experience with academic learning
- That the work experience is more structured than job shadowing or unpaid work experience and will produce more skilled employees
- That the employer will be closely involved in developing the training plan
- That worksite mentors will be trained and supported by the school-to-work program.

The coordinators have found that businesspeople are usually excited when the school-to-work program is fully explained to them. They understand that their time and resources—and those of the student will be better used than in less structured work experiences and that they will get something—a trained employee—for their efforts. They also like the opportunity to write training plans and be part of the curriculum team.

Once the key decision maker in a business agrees to become involved, the employer either begins advertising for volunteer mentors or invites the coordinator to a staff meeting to explain the program to the supervisors and managers of the different departments. We have begun having students and other employers make presentations at these meetings as well. Then the supervisors ask for workers to volunteer as mentors. Once mentors have been selected they attend a three-hour mentor training seminar and work with the coordinator and teacher to develop the training plans.

Recruiting New Employers

The coordinator identifies new employers from contacts provided by participating companies and by developing a list of companies in the area using information from the Chamber of Commerce, the telephone Yellow Pages, professional magazines and professional and trade associations in the city. Once a likely company has been identified, the coordinator sends a letter to the CEO or the head of human resources (see sample letter in chapter appendix). The letter briefly explains the work-based learning program and invites the employer to call the coordinator for further information. The coordinator then makes follow-up calls to try and schedule a meeting with a high-level company representative. This may be the CEO, vice president for human resources, company owner or an employee designated to be the worksite coordinator. After this meeting, if both parties are interested in pursuing arrangements for work-based learning, the coordinator sends a follow-up letter (see sample follow-up letter in appendix) summarizing the points agreed to at the meeting and enclosing any requested material. At this point, the process of arranging for mentor training and developing student training plans picks up.

Stakeholders Group Contacts. The stakeholders group is an integral part of the success of the program. It functions as an advisory board and is responsible for guiding the implementation of the school-to-work program. The stakeholders are employers, school principals, community leaders, parents, educators and students. The group meets three to four times per year and is led by a person from the business community.

The stakeholders group concept began with the Health Tech 2000 program and was replicated for the other five school-to-work programs. It started as a group of people interested in developing a work-based learning program in the healthcare field and grew as the number of participating employers increased. The stakeholders group for the healthcare program is now a large group with several committees, including one for recruitment. The recruitment committee sponsors an annual orientation breakfast for decision makers at healthcare institutions that are not yet participating. This committee also has developed recruitment materials, including a video about our program.

Individual members also help with recruitment. Vice presidents of human resources speak with their counterparts in other organizations and the word spreads. The coordinator follows up on all contacts initiated by the stakeholders group. We have found as more employers get involved, businesses are often eager to outdo one another to show that they are as committed to their communities as their fellow companies.

For example, the CEO of one of the major hospitals agreed to send a letter to all Philadelphia healthcare employers who are not involved with the program, inviting them to a luncheon meeting at his hospital. At the meeting, he presented his work-based learning model and urged them to join the program.

A key to recruitment is to target the city's biggest employers first and to develop relationships with employers who have power across the city. Once these powerful players are involved, they can persuade others to join.

The Recruitment Presentation

The presentation lasts an hour and is designed to familiarize the employer to the school-to-work system. Packets of information are distributed that include:

- The program manual, with featured items about businesses that are part of the school-to-work system
- Information regarding mentor training
- Information about communications between the school and workplace
- Stakeholder's guidelines.

The coordinator then talks with employers to determine if they want to participate and the number of students they are prepared to employ.

Program policy is clearly outlined to employers. Employers are given details on school district policies regarding students, including the criteria for work readiness, the work-based learners' education plan and their employment schedule (one full day per week in 11th grade, two full days per week in 12th grade). Child labor laws are discussed and material on the laws is given to employers.

When recruiting employers, we stress the idea of partnership and teamwork in the program. Employers are asked to become part of the education system and we make clear that their input and involvement can provide the solution to the problem confronting businesses today: the need for access to the education of their future workforce.

Paying Work-Based Learners

We have found certain policies and practices work best when arranging for paid work for student learners. We have also identified several strategies for helping employers get funds to pay student workers.

We find the arrangement works best when students are paid employees of the businesses where they work. They get paid as regular employees and must sign in and out of work. Students work under the guidelines provided by their employers and are responsible for following the rules and regulations of the company.

Salaries are determined by the employers. The coordinator requests that students be paid minimum wage or higher. Negotiations between the coordinators and employers have resulted in full payment of wages for all work-based learners at the minimum wage ($4.25 an hour plus social security and worker's compensation) or higher. Most hospitals pay minimum wage. In the Business program, student wages average $5 an hour. The Manufacturing and Transportation programs have the highest student wages, averaging $8 an hour.

In most cases, money does not stop employers from participating. Larger companies, in particular, spend much more money training and retraining adult workers than the small amount they pay our students. In the Transportation program, for example, one employer spends $13.95 an hour training an adult and $8.95 training a work-based learner. Employers can clearly see that the paid work experience is a less expensive way to provide a worker the same training, over a longer period of time, with a skilled worker as the result.

Trainee Wages

In the beginning of the STW program in 1993-94, a special fund was set up by the Philadelphia School District, with support from the business community and grants, to partially pay student wages for healthcare employers that could not support full wages for work-based learners. The fund was administered by a nonprofit organization, Philadelphia High School Academies, Inc., which paid the money directly to the company so that the student's wages would be distributed on an employer's check. The stakeholders group wanted to use the fund to bring as many students as possible into the program.

One strategy we found that helped us bring in employers was to use the training wage that has been set up by the U.S. Department of Labor. The training wage is 80 percent of the minimum wage plus social security and worker's compensation ($3.62 per hour). Employers can pay student workers the training wage rather than the minimum wage if the employer can prove that the work is a learning experience. We found it is not hard to fulfill this requirement. The Department of Labor has forms businesses can use for this purpose and it is very cooperative in arranging for employers to pay this special wage. (Contact the Department of Labor office in your area for information on using the training wage).

The availability of this fund and the ability to use the training wage, gave the program a jump start, enabling many healthcare employers to participate. The fund is available only for one year of participation and employers have to commit to assume responsibility for the student wages after that. Any employer that does not provide full support for wages in the second year is dropped from the program. The fund was used very little in the 1994-95 school year. When we recruited healthcare employers for 1995-96, we did not even mention the fund, unless it was impossible for an employer to pay the full minimum wage.

Welfare Waiver

The wages of a student whose parent receives Aid to Families With Dependent Children (AFDC) benefits are deducted from that benefit. This is hardly an incentive for such students to participate in paid work experience. For the first two years of the program we were able to get temporary waivers on those deductions. However, further waivers are not guaranteed. Some state legislators are attempting to exempt children under 18 from the deduction, but no legislation to that effect has passed yet.

Small Businesses

We have found that small businesses, mainly in the manufacturing and printing industries, cannot participate because of the money needed to support the students. School-to-work staff at the state level are working with the legislature to develop tax credits to provide assistance to small businesses. At the local level, we are exploring alternative funding sources such as grants.

Some states do provide tax credits and other incentives to small businesses willing to provide paid work opportunities (contact your state School-to-Work office for information on the situation in your state).

We have found one key to persuading small businesses to participate in paid work opportunities is to start out very small, with just one student. It's also important to keep talking with them about their specific barriers to hiring a student worker and come up with individual ways to surmount those barriers.

Summer Employment

As an incentive to participating employers, the school-to-work initiative partnered with the Private Industry Council and then with the Philadelphia Education Fund to provide funds for the summer employment of the 400 program participants. The Fund is a private, community-based organization that receives funding from the PIC and other sources to support school-to-work and other public education initiatives. The funds for the summer employment came through the Job Training Partnership Act.

Other Assistance

We have found that employers often provide other types of support for the school-to-work students to build on the paid work experience. One employer has granted $75,000 in scholarship money to all eligible Health Tech 2000 students who attend Hahnemann University School of Allied Health Sciences when they graduate from high school. Another covers the cost of SAT preparation sessions and pays the students their wages to attend. Employers now also provide students with paid summer employment and part-time work during their college careers.

Related Issues

Labor Union Support

The unions have been extremely supportive of the Philadelphia initiative. However, soliciting union involvement from the very beginning of the planning stage is critical for a collaborative partnership. The Superintendent of Schools began developing support for work-based learning by meeting with the teachers' unions. He then brought together a group of union leaders from across the city to get their input about planning and implementing the program. Those leaders talked among themselves and with others and decided to support the initiative if certain criteria were met.

The union leaders had two primary concerns: that the students not replace current workers and that the work experience must lead to real jobs. With assurances on both these issues, the unions joined the various stakeholders groups and became involved in developing policies for the programs.

Training Agreement

It is important for the written training agreement, which provides the employer, student and school with a list of important responsibilities and which all partners must sign, to state the student worker's rate of pay. A sample of the training agreement we use in our system is in the chapter appendix.

Cost of Worksite Mentors

Mentors are the key to success for work-based learners, but the time they spend with the student is a cost factor for employers and must be discussed when developing paid work experiences. Our employers provide mentors release time from work to teach and train the students. This is time equal to employees' wages and is a business donation to the program.

The training and support the school-to-work program provides mentors is another important element in developing paid work experiences. All mentors in our system participate in a three-hour mentor seminar. Mentors also write training plans for the student, assisted by the teacher and coordinator. Employers must understand that a mentor needs to volunteer their services to the student and that this takes a serious commitment from the mentor. You should make it clear to employers that this is a cost, but, like the student's wages, one that will pay off by developing a skilled worker.

The Employer Investment

The Philadelphia region is rich in business and industry resources and we are fortunate to have business and community leaders working directly with the school superintendent in developing our system. The fact that the employers are a part of our decision-making process makes them more willing to be involved. They realize they can help shape the education system to improve the quality of the future workforce and that the monies spent paying student wages are really an investment in the workforce of the 21st century.

Elyse Topolsky is the School-to-Work Coordinator for Health Tech 2000 with the School District of Philadelphia. Marlene Owens in an instructional support specialist with the school district.

For more information about Philadelphia's Work-Based Learning initiative please contact Ms. Topolsky at the Office of Education for Employment, School District of Philadelphia, 734 Schuylkill Avenue, Philadelphia, PA 19146. (215) 875-3991.

THE SCHOOL DISTRICT OF PHILADELPHIA
JOHN F. KENNEDY CENTER
734 SCHUYLKILL AVENUE
PHILADELPHIA, PENNSYLVANIA 19146-2397

OFFICE OF EDUCATION FOR EMPLOYMENT

TELEPHONE (215) 875-3802
FAX (215) 875-5740

April 12, 1995

Wanda Amaro
Human Resource
Episcopal Hospital
Front and Lehigh Avenue
Philadelphia, PA 19125

Dear Ms. Amaro,

The School District of Philadelphia, Office of Education for Employment, has once again been awarded funds from the State of Pennsylvania for Health Tech 2000 a (School-to-Work) Work-Based Learning Program. As one of the leading organizations in the Philadelphia area we would like **Episcopal Hospital** to become an integral part of this initiative.

The Health Tech 2000 Program is structured to prepare students for the transition from school to careers in the Allied Health/Science fields. The participants, through an integrated curriculum of work-based and school-based learning activities, will be prepared to enter the workplace and/or enter a post-high school education program. The partnership between school and employers will provide the participants with the high level skills, field knowledge, and work maturity skills that will benefit both the students and the Philadelphia Health/Science community.

This is the second year of the program, which now includes participation of many Philadelphia Health Care Institutions, listed on the attached sheet. We want to expand student experiences to include more hospitals along with the research science and pharmaceutical industries because of the needs expressed by these industries, as well as, students interest to explore these career opportunities.

I would like to meet with you to discuss the proposal at a time convenient to you. I can be reached at 215-875-3991 to arrange a time, or answer any questions or concerns.

I look forward to hearing from you soon.

Sincerely,

Elyse Topolsky
Program Coordinator

THE SCHOOL DISTRICT OF PHILADELPHIA
JOHN F. KENNEDY CENTER
734 SCHUYLKILL AVENUE
PHILADELPHIA, PENNSYLVANIA 19146-2397

OFFICE OF EDUCATION FOR EMPLOYMENT

TELEPHONE (215) 875-3802
FAX (215) 875-5740

May 24, 1995

Stephen Geary
Director, Human Resources Administration
McNeil Consumer Products Company
7050 Camp Hill Road
Fort Washington, PA 19034

Dear Mr. Geary,

I would like to thank you for taking the time on Friday the 19th to discuss the Health Tech 2000 Program with Chris and myself. Your enthusiasm and support will be essential in maintaining the success of the program. I completely understand your present situation and look forward to your participation in the Fall.

In reflecting upon our meeting, I am confident that our collaborative goals can be reached when we join together. Some areas of interest we discussed within the School-To-Work System were:

* Assisting in Middle School Job Shadowing
* Providing Mentors
* Participating on the Stakeholder committee
* Partnering with the Inroads Program

Enclosed are the child labor law documents we discussed at the meeting. Please contact me if you have any questions or comments at: (215) 875-3991.

This joint effort will be a mutually beneficial partnership and I look forward to working with you in the Fall.

Sincerely,

Elyse Topolsky

Elyse Topolsky
Health Tech 2000
Program Coordinator

SCHOOL-TO-WORK
WORK-BASED LEARNING PROGRAM
JOHN F. KENNEDY CENTER
734 SCHUYLKILL AVENUE
PHILADELPHIA, PA 19146

TRAINING AGREEMENT FOR SCHOOL-TO-WORK EDUCATION

Pennsylvania Vocational Education Regulations and Standards/ Pennsylvania and Federal Child Labor Laws Require a Written Training Agreement and Training Plan for Each Student in a School-To-Work Program.

Name____________________ Social Security No.__________
Address____________________ Telephone__________
Birthdate__________ Age______ Work Permit No.__________
Student Career Objective__________ Work Site Placement__________
Date of Employment: Beginning__________ Covered under worker's comp yes___ no___
Employer______________________________
Address______________________________
Mentor/Supervisor____________________ Telephone__________
Total Weekly Hours__________ Beginning Rate of Pay__________

EMPLOYER RESPONSIBILITIES:

1. The agency will adhere to all State and Federal regulations regarding employment; child labor laws, minimum wages and workmen's compensation.
2. The student will be given a variety of work assignments and be supervised by an experienced person.
3. A periodic evaluation of job progress will be made by the mentor/supervisor on a rating form provided by the school.
4. The mentor/supervisor will arrange a conference with the coordinator when a trainee problem arises.
5. The employer will provide necessary safety instruction throughout student training period.
6. The employer will not employ a student-learner to displace a regular worker.
7. Exposure to hazardous work will be incidental to the student-learner's training and not a part of the student-learner's training program.
8. Work which is hazardous shall be intermittent and for short periods of time.
9. The employer is not liable to the unemployment compensation fund for wages paid to the student while under the training program. This is provided in section 4L4 10C in Pennsylvania Unemployment Compensation Law.
10. The employer shall provide the student with information required by the PA Worker and Community Right To Know Law.
11. The employer agrees to follow the plan for training by the program's instructors and the training supervisor appointed by the employer; to give the student a variety of work assignments according to the training plan and to provide comprehensive instruction under the direction of qualified personnel.
12. The employer agrees to provide adequate equipment, materials, and other facilities required in order to provide an appropriate learning experience for the student learner.
13. The employer agrees to keep accurate records of the student's attendance and to notify the sending school if the student is absent without notification.
14. The employer agrees to permit the school's representative(s) to visit the student and supervisor at the place of employment to determine progress, obtain direct feedback, and make adjustments in the training plan whenever necessary.
15. The employer will hold regular meetings of student learner and employer representatives to discuss progress, issues and concerns.

WORK-BASED LEARNING STUDENT RESPONSIBILITIES:

1. The student agrees to perform the assigned duties in a loyal manner and work to the best interest of all concerned.
2. The student agrees to report job problems to training supervisor and coordinator.
3. The student will adhere to company policy; employment may be terminated for the same reasons as regular employees.
4. The student must be regular in attendance at school and on the job. If unable to report to work, the student will notify employer and coordinator will be notified before the start of the normal work day.
5. Transportation is the responsibility of the student.
6. The student working under this agreement is not eligible for unemployment compensation, nor are they eligible to use wages received under the program as credit for termination for unemployment compensation benefits.
7. The student will report to school for designated meetings and instruction.

SCHOOL RESPONSIBILITIES:

1. The program is under the direct supervision of a school Site Coordinator/Instructor.
2. The student will receive related instruction and safety instruction from the school instructor during employment.
3. The site coordinator/instructor will visit the student and training supervisor on a regular basis at the training site.
4. Student transportation and insurance at school will follow School District of Philadelphia policies.
5. The participating school agrees to award credits earned in the Work-Based Learning Program toward the student's high school diploma.
6. The participating school district agrees to adhere to the curriculum and program regulations and standards of the Pennsylvania Department of Education and the School-to-Work Program.
7. Regular meetings of work-based learners and site coordinators/instructors to discuss progress, issues and concerns.

Employers of School-To-Work students will not discriminate in employment, educational programs or activities, based on race, sex, handicap, or because a person is a disabled veteran or a veteran of the Vietnam era. This policy of non-discrimination extends to all other legally protected classifications. Publication of this policy is in accordance with state and federal laws including Title IX of the Education Amendments of 1972 and Sections 503 and 504 of the Rehabilitation Act of 1973.

This memorandum is for the purpose of outlining the agreement between the school and employer on the conditions of training to be given a student while on the job. It, therefore, should not be interpreted by either agency as a legal document or any form of binding contract.

We the undersigned agree to the conditions and statements contained in this agreement.

Work-Based Learning Student______________________________Date_______________

Parent or Guardian______________________________________Date_______________

Employer____Date_______________

School Representative's Signature___________________________Date_______________

SCHOOL DISTRICT OF PHILADELPHIA
OFFICE OF EDUCATION FOR EMPLOYMENT
SCHOOL-TO-WORK PROGRAMS
PRE-PLACEMENT EVALUATION - WORK-BASED LEARNER

Grade 12 ________ Grade 11 ________ AREA ______________________________

Name	Social Security Number
Address	Telephone Number Grade
City State Zip Code	Home School
Birthdate Age	Instructional Area # years in course Charter/Academy

Verification of Grades & Attendance by Pupil Services
(Additional comments on back)

Grades (last 3 marking periods) ______ ______ ______

Absences - Previous school year ______ Current ______

Latenesses - Previous school year ______ Current ______

RECOMMENDATION FOR WORK-BASED LEARNER PLACEMENT

Instructor ______________________ ________
Signature Date

Approval of Work-Based Learner Placement by Parent/Guardian

In addition, I understand that it is my responsibility to provide Medical Insurance and to determine that both the driver and vehicle used for Work-Based Learner placement are properly licensed, insured and safe.

______________________ ________
Signature Date

Verification of satisfactory disciplinary history
(Additional comments on back)

______________________ ________
Signature Date

Approval of Work-Based Learner Placement by the Site Coordinator

______________________ ________
Signature Date

Approval of Work-Based Learner Placement by the Supervisor of Instruction for the Instructional Area/Small Learning Community Coordinator

______________________ ________
Signature Date

SCHOOL DISTRICT OF PHIALDELPHIA
OFFICE OF EDUCATION FOR EMPLOYMENT
SCHOOL-TO-WORK INTIATIVE
WORK-BASED LEARNING PROGRAM

WORK-SITE EVALUATION

*Date*____________________________ *Employer*____________________________

*Student's Name*____________________ *Mentor/Coach*________________________

*Student's School*___________________

OUTCOMES

0 = F
1 = D
2 = C
3 = B
4 = A

	Performance Levels					
OBSERVATION CRITERIA	**0**	**1**	**2**	**3**	**4**	**PERFORMANCE POINTS**
1. Personal Appearance						Dress professionally to standards of workplace.
2. Initiative						Works independently, initiates tasks with minimum supervision.
3. Attendance & Punctuality						Adheres to employer's code of attendance and punctuality.
4. Dependability & Organization						Exhibits quality of trust and consistency, able to manage time and resources with minimum supervision.
5. Interpersonal Relationships						Good team worker, always helpful, gets along with co-workers and supervisors
6, Job Knowledge						Thoroughly understands job and of related jobs.
7. Judgement						Sound judgements-decisions always based on thorough analysis.
8. Attitude & Cooperation						Good team worker. Goes out of way to cooperate.
9. Quality of Work						All work performed is accurate and thorou Catches errors.
10. Quanity of Work						Quanity of work is generally above standar requirements of job.

TOTAL POINTS ________________

PLEASE NOTE: Less than average performance (20 points/2.0) will require a conference with the studen parent, coordinator and instructor.

SCHOOL-TO-WORK INITIATIVE/ WORK-BASED LEARNING PROGRAM

STUDENT LEARNER COMPREHENSIVE PERFORMANCE APPRAISAL

Student Learner Name

Student Learner School

Student Learner Department

Appraiser Name

Appraiser Title

Appraisal Period From To

Attendance Record - Number of Unscheduled Abscences in Last Period

For each Performance Dimension, evaluate the IMPORTANCE to the Student Learner's job and LEVEL OF ACHIEVEMENT demonstrated in the past appraisal period.

IMPORTANCE TO JOB

4 - High Importance
3 - Above Average Importance
2 - Average Importance
1 - Low Importance
NA - Not Applicable

LEVEL OF ACHIEVEMENT

5 - Outstanding
4 - Highly Effective
3 - Effective
2 - Improvement Needed
1 - Unacceptable
NA - Not Applicable

PERFORMANCE DIMENSIONS		Importance	Level of Achievement
1.	Cooperation/Team Effectiveness: Works effectively with others toward common unit goals. Establishes and sustains a positive impact on people. Actively and positively contributes to morale and teamwork.		
2.	Dependability: Demonstrates reliability in meeting deadlines and completing responsibilities. Attendance is within program guidelines.		
3.	Flexibility/Adaptability: Adjusts behavior, style or schedule as situations change. Handles multilple tasks.		
4.	Independence: Performs work assignments with a minimum need for supervision and guidance.		
5.	Initiative/Interest/Motivation: Originates actions and actively influences events. Offers suggestions without waiting to asked. Anticipates and responds to other's needs promptly and courteously.		
6.	Interpersonal Communications: Effectively expresses self. Listens attentively. Creates a climate of open communication. Respects confidentiality and privacy.		
7.	Job/Technical Knowledge: Possess skills and technical competence to execute job duties. Operates within policies and procedures. Adheres to health and safety standards.		
8.	Management Support: Keeps supervisor well informed of status of assignments. Responds to requests and leadership of supervisor.		
9.	Planning/Productivity/Time Management: Demonstrates ability to set goals, assign priorities, anticipates problems, establishes limits and achieves results. Completes multiple tasks with timeliness. Schedules and uses time efficiently.		

BEST COPY AVAILABLE

	Importance	Level of Achievement
10. Problem Solving/Analytical Skills: Identifies problems, reports same to supervisor		
11. Reponsibility/Commitment: Affirms and demonstrates a dedication of effort, resources and time to the job. Utilizes workplace resources in a cost-effective manner. Dresses appropriately according to departmental requirements. Displays proper identification.		
12. Written Communication: Expresses ideas and information clearly and consisely in written form.		
13. Sensitivity: Treats others with dignity and respect. Acts with consideration for the needs of patients, visitors, and other employees.		
14. Competence with Patients (If Applicable): Demonstrates the knowledge and skills necessary to provide care to patients under direct supervision.		
15. Other: (Please add other dimensions identified as important to the position on a separate sheet).		

List primary JOB/DUTIES as stated in the Training Plan, and identify the level of achievement for each during the past appraisal period. It is essential when completing this section to refer to Training Plan.	(U)	(I. N)	(E)	(H.E.)	(O)

Legend: (U) = Unacceptable (I.N.) = Improvement Needed (E) = Effective
(H.E.) = Highly Effective (O) = Understanding

Overall Evaluation of Demonstrated Skills and Accomplishments of Goals and/or Responsibilities:

☐ UNACCEPTABLE	☐ IMPROVEMENT NEEDED	☐ EFFECTIVE	☐ HIGHLY EFFECTIVE	☐ OUTSTANDING
Failed to demonstrate adequate progress towardcompletion of goals and/or responsibilities. Did not consistently demonstrate necessary skills and knowledge required for job.	Accomplished goals and/or reponsibilities for the appraisal period. Skills and knowledge could be used more effectively to perform job.	Accomplished goals and/or responsibilities for the year. Productively utilized skills and knowledge to perform job.	Accomplished goals and/or responsibiliites beyond expectations. Commendably utilized skills and knowledge to perform job.	Consistently exceeds goals and/or reponsibilities for the year. Demonstrated overall excellence in skill and knowledge required for job.

CHAPTER 24

Successfully Matching Students and Employers

By Lois Ann Porter
Boston Private Industry Council
Boston, Massachusetts

One key to a school-to-work system that truly improves students' futures is ensuring that students are placed in work-based expereinces that match their abilities, interests and future plans. At ProTech, we have found that getting the right match between student and employer is worth the time and thought it requires.

ProTech is a workforce development program that combines school- and work-based learning with paid work experiences to prepare students for careers in the health care, financial services, utilities/communications and environmental services industries. ProTech students spend their junior and senior years of high school and at least two years in college learning and developing basic, technical and work-readiness skills in one of many targeted careers. During the school year they hold part-time jobs with participating employers. During the summers and holidays they work full time.

During the 1994-95 school year, ProTech was responsible for 250 high school students undergoing work-based learning at 16 different worksites. Based on the experiences of three years of graduating seniors, on average, 94 percent of ProTech students go on to postsecondary education. Half of these enroll in two-year colleges and half in four-year institutions. The vast majority continue to be employed with their ProTech employer. It is significant that 86 percent of the students will be the first in their family to complete postsecondary education.

To achieve results like this, we spend a great deal of effort to ensure a good fit between students and employers from the beginning. In this chapter, we outline the process we have developed to make this happen.

The ProTech Structure

Eight ProTech industry programs are currently operating at six public high schools in Boston. Two schools offer programs in both health care and financial services and the other four offer one program in either health care, financial services, utilities and communications or environmental services. Between 25 to 30 juniors and 25 to 30 seniors participate in each program each year. Two to five employers within an industry work with each school program.

Since 1990, ProTech, serving six Boston high schools, *has combined school and work-based learning with paid work experiences to prepare high school juniors and seniors for careers in four industries: health care, financial services, utilities and communications, and environmental services. The Boston Private Industry Council operates the program.*

The current group of ProTech students is 65 percent female, 35 percent male, 56 percent African American, 27 percent Latino, 8 percent Caucasian, 8 percent Asian and 1 percent other. ProTech students represent a broad range of prior academic experiences, from high achievers to those at risk of failure. Almost 50 percent speak a language other than English at home, and in some schools, 25 percent are identified as having special needs.

Each ProTech industry cluster establishes its own policy and governance structure. Policy is established by an executive committee made up of decision makers from the participating employers and high schools (usually the vice president of human resources and the principal or headmaster) and a senior representative of the Boston Private Industry Council (PIC). At each school, a PIC staff member serves as ProTech coordinator for a program, working with administrators, teachers, counselors, students and employers.

Student Recruitment and Selection

A rule of thumb adopted by the PIC and the foundation of ProTech's continued success, has been the involvement of employers at each step of design, implementation and evaluation. Employers are closely involved in the recruitment and selection of students who will become their future employees.

Recruitment Assembly

ProTech students are recruited and selected during the spring of their sophomore year. Each participating high school hosts a ProTech assembly for all tenth graders. At the assembly, the principal, teachers, current student participants, the ProTech coordinator and the employers partnered with the school make presentations about ProTech. The role of the employers at this assembly is to highlight the types of experiences the students will have at their company.

Applications and Interviews

All students are invited to apply to the program by submitting a completed application along with teacher recommendations and their most recent transcript. Every student who applies is scheduled for an interview conducted by a panel that includes a teacher, an employer and the ProTech coordinator.

The ProTech coordinator meets with each student before the interview. The coordinator explains what is expected, encourages students to bring their parents, provides suggestions about appropriate dress and helps identify applicable school work or hobbies the student may want to display or demonstrate. This step helps prepare the students and ease their fears about the interview process.

Each interview lasts 15 to 20 minutes and has two goals. The first is to provide the student (and their parents if possible) with additional information regarding participation in the program. The second is to give the panel the opportunity to ask questions of the student to ensure that he or she understands the opportunities and the expectations of the program.

Selection Criteria

Each member of the interview panel scores the student on specific selection criteria including the application, teacher recommendation, attendance and tardiness record, overall grade point average, appearance, presentation during the interview and the ability to communicate interest in the program. The panel then ranks the applicants and prepares a roster of 25 to 30 students selected for participation. This list is forwarded to the principal for review and approval. Following the approval, the students are notified of their status. The registrar schedules all students who will be involved in ProTech to be "clustered" together in one eleventh-grade homeroom and in two of their academic subjects.

The Employer "Draft." Most companies sponsor five to 15 new students each year. Although several employers participate in the selection process at each school, once the roster is approved it is necessary for the employers to select "their" students. The process of dividing up the students for the participating employers has become known as "the draft."

The ProTech coordinator meets with the employers as a group to go through the roster student-by-student. The students have indicated their three top preferences. Their choices usually are based on factors such as proximity to home, the employer's specialty, technical versus customer service positions and whether the student knows someone who works for an employer. The employers consider students' preferences and their knowledge of each student from the application and interviews. Weighing this information and in negotiation with other employers, each employer picks the student or students he or she would like to have working at the business and the match is made.

The draft is not etched in stone. If the match does not appear to be appropriate, a change is made early in the junior year.

The draft is where the buy-in of the employers comes to life. It is at this point that the employers shift from presentations and interviews to affectionately referring to the students as "theirs."

Preparing Students For Worksite

One of the greatest complaints we heard from employers about students entering their departments was that students often arrived unprepared or with unrealistic expectations. As one supervisor from the Federal Reserve Bank noted, students need to know that "it's not all Wall Street." ProTech employers' advice to incoming students includes:

> *To get interesting, challenging work, you will first need to prove yourself by doing routine work. If you get an assignment that you feel is 'below' you and do a bad job, you won't be given more responsibility. So, do all the tasks assigned well, with attention to detail, even if you think the work is 'grunt work.'*

The difference between a student who has a good start and one who gets off on the wrong foot can be the "make it or break it" factor for the continued participation of the department, the student or the program. Employers consistently advise us to prepare the students for their workplace as much as possible before the student arrives for the first day at work. The employers do not ask us to develop the students' technical skills, just to reinforce the introduction that has been conducted through the rotations and the work readiness workshops. It is the job of the ProTech coordinator to orient the students to the particular department in which they will be working.

For example, department supervisors ask that the students arrive at the job aware of:

- The time, place and person to whom to report
- The days and hours of work
- The basic function and expectations of the department
- The importance of being part of the departmental team.

The employers are willing to take it from there. It is important to remember that we can ease for each student the transition from being a visitor at a worksite to becoming a productive member of a high performing departmental team by clearly communicating and supporting the student's readiness for workplace expectations. This is where the adage, "an ounce of prevention is worth a pound of cure" rings true.

The PIC began developing the preparation process by asking employers to identify the most important characteristics or skills that students must have before entering the workplace. The employers' message was clear. Students must arrive:

- With a positive attitude and willingness to learn,
- With a history of reliability—particularly regarding attendance and punctuality,
- Demonstrating strong communication skills,
- Dressed appropriately for work.

These desired characteristics are consistent with findings of the National Center on the Educational Quality of the Workforce's National Employer Survey. For this study, released in 1995, the Census Bureau asked more than 3,000 private companies, "When you consider hiring a new non-supervisory or production worker, how important are the following in your decision to hire?" The top two responses of "qualities that count" were attitude and communication skills.

Orientation

Once the students have been selected, the PIC and the employers host an afternoon orientation session for all new ProTech students before the end of their sophomore year. The orientation celebrates the students who have been selected to participate, gives them an opportunity to share their goals and expectations of the program and helps them begin the team building process and work readiness training that will continue throughout the program. The students participate in goal setting workshops and make presentations to the entire group. The orientation also helps them see the diversity and extent of the ProTech program—that it involves more than their group in their school

At the beginning of the junior year, each cluster (the group of students in a school working in a particular industry) participates in a one-day Outward Bound-type experience. This activity encourages teamwork, problem-solving and risk-taking among the students, teachers, PIC staff and employers. In student and employer surveys, this experience has been consistently cited as a highlight of their first year.

Work Readiness

During the first semester, juniors are oriented to the worksite. Throughout September, students participate in several workshops on workplace readiness. The workshops are intended to prepare the students for worksite rotations and establish guidelines for basic workplace requirements, such as appropriate dress, punctuality, acceptable behavior and communication skills. In addition, the students receive ProTech Handbooks that contain the Letter of Agreement, standards of behavior, tips on workplace etiquette and specifics about who to call in an emergency.

Worksite Rotations

Starting in October, the students are introduced to all aspects of their industry through a series of eight to 12 worksite rotations at their designated workplaces. On the first day of the worksite rotations, each company conducts its own new employee orientation for the students. This is the same orientation and training given to any "regular" new employee. The students are given a basic introduction to workplace policies and procedures and go through industry-specific requirements. These include training in universal precautions and health screening (hospitals), bonding (investments) and drug testing (utilities). The employer is responsible for any costs associated with the students' orientation. This may mean providing ID badges, uniforms or lab jackets or the lab fees for any health-related screening.

The procedure for worksite rotations varies from employer to employer, with each company organizing its own program. For example, at the New England Baptist Hospital, the students spend one week in admitting, one in the physical therapy department, one in surgery and spend time observing the outpatient services. During the rotations, they become familiar with the equipment, observe and talk to employees and learn what goes on in a hospital specializing in orthopedics. They are also introduced to the issues of ethics and confidentiality in a health care setting.

Students at the Bank of Boston are assigned to the operations department. They learn the banking industry by following the life of a check as it moves through the bank. Each week they are exposed to a different part of the process—how funds are transferred, who handles a check when and so on.

Job Assignments

At the end of the first semester, the employers assign the students to their part-time, after-school jobs. As a result of the job rotations, the employer can make informed decisions about the work experience assignments, matching students to jobs and departments in which they are likely to succeed. To be eligible for the work experience, students must have successfully completed their rotations and maintained a C average and a 90 percent attendance rate at school.

Preparing The Worksite For Students

Defining Goals for Students

Every employer has different expectations about the use of students at the worksite. It is important to define and communicate the goals of the work-based experience at the very beginning of the employer's participation.

At ProTech, the industry executive committee assumes the responsibility for accomplishing this.

Initially, employer representatives are asked to visualize where they would want the student employee to be in two, four or six years and to use their worksite experience as a building-block to reach this goal. This commitment to cultivating more qualified employees is then communicated to the operations level of each department, supervisor to supervisor. Through such a process, the human resources department and the front-line supervisors are able to identify and create quality work-based learning experiences.

Quality Placements

It is critical that the students are placed in departments that need real work performed. We have observed a direct correlation between the success of the student worksite placement and the level of expectations placed on the student to contribute to the productivity of a particular department. When we evaluated the success of our first year placements we found that 100 percent of our students who had been in a technicaltype position, such as laboratory technician, were still participating in the program. They also were performing better in school, as measured by grades and attendance and spoke more highly of the experience than students who had been in less demanding positions.

When students were placed in positions that were typically filled by volunteers, such as flower delivery, patient transport or meal distribution, they felt less valued by their supervisors. The message that seemed to be communicated was, "if you don't show up for work, somebody else will do it." Of the students who were terminated in the first year, 95 percent had been placed in service or clerical positions.

It is up to the supervisors of students to determine how they will utilize a student in a particular department. Don't waste the supervisors' time—or the students' time or enthusiasm—with low expectations.

ProTech students have enjoyed high quality placements at dozens of Boston companies. The students have benefited greatly from these experiences and so have the employers. As one supervisor from Boston City Hospital's Radiology Department stated:

> *When students have an interest and desire to learn, they absorb the information more quickly and perform the task or job with minimal direction. We rely on the ProTech students because they have made themselves valued members of our department. We depend on them, as we would any other employee, to perform their job competently and proficiently without the need for constant supervision.*

Choosing Worksite Supervisors

Students need supervision and structure at a worksite. The amount of supervision will vary from placement to placement and from student to student. Every employer has workers who would be wonderful supervisors for students. Employers know who the "stars" are within a company. When you begin building opportunities for students at the workplace, try to go to those departments that will provide the best supervisors and an environment for a student to develop the desired skills and qualities.

It is important that the worksite supervisors be given supporting materials when taking on the responsibility of supervising a student. ProTech created a Supervisor Handbook to support the people involved with student employment at each worksite. Our handbook includes:

- Program guidelines
- Standards of Behavior
- Progressive Discipline process
- Phone numbers of persons responsible for the student at work, at the school and at the PIC
- Answers to frequently asked questions.

Supervisory Training

It is not sufficient to distribute a handbook as a single tool of support for supervisors. An orientation for worksite supervisors is just as important as the orientation for the students. We recommend that the material covered in a supervisor orientation include:

- Program objectives
- How to create a work-based learning experience
- Overview of adolescent development.

This past year, ProTech put a new twist on supervisory training. The ProTech coordinators at Boston High School created a daylong training program held at the high school. Supervisors from the participating companies "came to school" for the day. They were divided into different "homerooms," issued a schedule for the day and attended a different workshop during each class period. The workshops covered topics such as program overview, student evaluation at the worksite, how to develop training plans and a memory prompt of what it is like to be an adolescent.

The supervisors rotated from workshop to workshop when the bell rang for class dismissal and they were expected to maneuver around the school (get to the bathroom, make phone calls and so forth) as a student would between classes. They even ate lunch in the cafeteria.

The supervisors were extremely positive when evaluating the daylong training program. They came away with a better foundation for ProTech and remembering what it was like to learn in 42-minute periods with constant class interruptions through the speaker-system.

This training has resulted in a better understanding among the supervisors, the students, the teachers and the PIC staff. The parties better understand each other's environments and the adults, particularly, can remember what it was like to be "there" in high school. As one of the supervisors wrote in evaluating the training:

> *It was very helpful to understand and see the environment of the school. A follow-up in about six months would be great to discuss working with the students and what works, what doesn't and share experiences (both good and bad).*

Sustaining Relationships

As important as it is to intially prepare the students and supervisors for the worksite experience, it is critical that support be sustained over time. There is a phenomenon we call the "honeymoon period" that happens every year. When students enter the worksite, they do beautifully for about two months. After a while, the newness and excitement of the experience wears off, the job becomes more routine and the demands probably get more difficult. It is not uncommon for problems to arise at this point.

For example, students who were prompt for two months begin to show up five or ten minutes late. Students forget to mention to a supervisor that they are going out of town for spring break. Maybe they show up for work wearing a cassette headset or their pants belted somewhere around their knees. Supervisors can respond in different ways, both positive and negative and you should be prepared to address the problem so that it doesn't get out of hand.

Resources for Support

When such concerns arise, it becomes necessary to have certain tools and support systems in place to prevent the escalation of problems for the department, company, student or overall program. Over the past four years, ProTech has institutionalized several tools to help address these unavoidable situations.

Letter of Agreement. The Letter of Agreement (see sample on facing page) gives the student, school, employer and PIC a signed agreement of commitments. This agreement serves as a basis for policy decisions for the program and can be modified annually to meet the needs of the participants.

Work-Based Training Plan. A work-based training plan serves as much more than a job description. It combines the job description with a performance appraisal tool. It also gives the supervisor, student and ProTech coordinator the opportunity to discuss the expectations for the student, today and in the future. This tool helps the supervisor realize that the department is responsible for

ProTech Letter of Agreement

The ProTech partners agree to the following terms during the high school years:

ProTech student will:

- Adhere to Boston schools' "Standards of Behavior" and high school-based rules.
- Maintain at least a "C" average.
- Maintain at least a 90% attendance record in school.
- Abide by attendance policy of the workplace.
- Arrive on time daily for both school and work and if late or absent for reasons beyond student's control, will call the appropriate personnel.
- Arrive at the workplace properly dressed.
- Meet job requirements and expectations as outlined in the ProTech Training Plan.

Student signature:______________________________Date:__________________________

Parent signature: ______________________________Date:__________________________

High School will:

- Cluster students in homeroom and appropriate academic subjects.
- Allow for early release of students for worksite rotations.
- Support teacher participation in worksite auditing and the use of work-based examples and projects in the classroom to meet the ProTech objectives.
- Provide student with support systems such as tutorial.
- Actively participate in recruitment for ProTech students and the involvement of parents.

Headmaster signature: __________________________Date:__________________________

Employer will:

- ProTech Lead person will provide students with worksite support.
- Provide unpaid worksite rotations.
- Provide paid jobs to students who meet grade and attendance criteria, a minimum of 10 hrs/wk.
- Provide full-time summer jobs.
- Provide guidance in career decision-making process for students throughout program.
- Provide tuition assistance to the extent possible for students who pursue ProTech Targeted Occupations.
- Make every effort to participate in recruitment and selection of ProTech students.

Employer signature: ____________________________Date:__________________________

Boston Private Industry Council will:

- Provide ProTech Coordinator at each participating high school to work with and counsel students regarding academic and workplace performance, as well as personal issues.
- Prepare the students for the "world of work" by conducting work readiness training.
- Provide college and financial aid counseling.
- Provide career counseling.
- Assist the high schools in gaining parental involvement.
- Coordinate efforts of program participants, including students, parents, teachers & employers.

PIC Signature: ________________________________Date:__________________________

the student's learning and the student experience as productive for the department as well.

Each student has an individualized training plan. We have found that individual conferences are necessary to develop each plan. (See the chapter appendix for two of the plans we use in the financial services placements.)

Evaluation Schedule. It is absolutely essential that students are fully aware of areas on which they will be evaluated and that the evaluations are done on time. We evaluate the ProTech student worksite experience after six weeks (end of March), four months (end of the school year), at the end of summer and every six months after that.

Communication Strategy

It is critical that there are regular meetings for ProTech supervisors. Most of our employers convene a supervisor meeting once a month at the worksite. At these meetings, supervisors communicate information about the program and brainstorm and problem-solve to improve the quality of the worksite experience.

Many of the elements described in this chapter came into existence through these meetings. For example, we developed training plans in response to numerous supervisors who were dissatisfied with the initial performance evaluation tool. They felt it did not accurately capture nor give credit for the amount of work and learning by students at the worksite.

Someone must be responsible for continual communication among all the participants—students, employer representatives, supervisors and teachers. For ProTech, the ProTech coordinator is this central point of contact. At the school, the ProTech coordinator meets with the students and teachers individually and as groups on a weekly basis. The coordinator also facilitates the monthly employer group meetings. Each company appoints a central contact person (usually from human resources) who is responsible for introducing ProTech at the company and explaining how the work placements operate. This company contact convenes the monthly supervisor meetings at the worksite.

Lessons Learned

While implementing ProTech for the past four years, we have learned a great deal. Many lessons we learned by doing things right and others we learned by making mistakes along the way. No matter how we learned the lessons, they are still important for us to share with other sites. Perhaps we can help shorten your program's learning curve or help you avoid the pitfalls we experienced. Our lessons—which may seem simple but are important to continually review—include:

- **Prepare both students and employers for the experience.** Student preparation should focus on work readiness skills and a general introduction to the industry. Employer preparation requires a good communication system, supervisory training and ongoing support.
- **Involve employers in the student selection process.** This reinforces the business aspect of the program and generates more support for the students and the program within a company.
- **Introduce students to the worksite through rotations before assigning them to jobs.** Worksite rotations expose students to all aspects of the industry, provide them and employers a chance to look each other over and give both parties information with which to make informed choices about job assignments.
- **Quality of job placement equals retention at the worksite and in the program.** The messages we send students about their positions can either heighten or deflate their feelings of self-worth and value. These are fundamental considerations when placing a student in the workplace and when cultivating the worksite placements for the students.
- **High expectations get results if you provide a support system.** The success of ProTech is attributable to multiple influences. One of the main factors is the underlying support system of connecting activities for the students and employers provided by the PIC's ProTech coordinators.

In addition to these general lessons, the following specific suggestions may be helpful.

- **Employer presentations at the recruitment assembly** have been most successful when the employers not only "sell" the program on its unique characteristics and opportunities, but also emphasize the high level of performance and productivity expected of the students.

- **The selection interviews are important, but must not be intimidating.** The panelists should go out of their way to make the students and their parents feel that the session is just as much for the interviewee as for the panelists.

- **To prepare for a successful match between students and employers,** it is helpful to brainstorm the "what if's" that may occur. Develop policies and guidelines to address the following situations before they arise.
  - What if a student doesn't show up for work?
  - What if there is an emergency at school or at work?
  - What about holidays?
  - Who gets involved when?
  - If the student doesn't go to school, do they work?

These and other questions are important for anyone considering student placement at the worksite. Many of them are obvious. Others will arise as students spend more time at the worksite. It is impossible to anticipate all questions at first. It is helpful for students and supervisors to have a chance to discuss their experiences on a regular basis. You should collect this information to include in the student and supervisor training and the handbooks that are updated annually.

Conclusion

The successful experiences outlined in this chapter reflect a great deal of commitment and enthusiasm from numerous participants, including students, teachers, employers, supervisors and PIC staff. The information contained in this chapter is real. It has been learned through four years of implementation and is meant to assist you in the process of ensuring a "good fit" between students and employers.

The most important suggestion I would make to any school, employer, teacher or organization who is dedicated to making the match between students and employers is to "just do it." If we had waited until we had every single question answered before getting students into the worksite, we would still be "planning" the match. Of course you should continually ask the students and employers, "What's working? What's not?" But at some point, you have to make your best judgments and move forward, always keeping your students' best interests at heart.

Lois Ann Porter is the School-to-Career Director for the Boston Private Industry Council. In this position she oversees all "connecting activities" for the Boston Regional Employment Board. Prior to this position, she served as the program director for ProTech, managing all aspects of ProTech as it evolved from a pilot demonstration site for the U.S. Department of Labor to a prototype for the School-to-Work Opportunities Act.

Resources

Resources we have used at ProTech that you might find helpful include the following:

Connecting Activities in School-to-Work Programs: A User's Manual. Bay State Skills Corporation, Boston, MA. (617) 292-5100, x222.

The EQW National Employer Survey. National Center on the Education Quality of the Workforce, Philadelphia, PA. (800) 437-9799.

For more information about ProTech, please contact the Boston Private Industry Council, ProTech Department, 2 Oliver Street, Boston, MA 02109. (617) 423-3755.

PROTECH TRAINING PLAN

1 = Not Applicable
2 = Exposed to task
3 = Performs task with assistance
4 = Mastered task
5 = Ability to demonstrate task to others

STUDENT: ______________________ **DATE:** ______________________

DEPARTMENT/POSITION: Bank Secrecy - Compliance/Specialist

I. Department Procedures

		1	2	3	4	5
A.	TASKS					
1.	Accurately process and files all CTR's (Cash Transaction Reports) with IRS					
2.	Research all cash discrepancies between DISC-LCR system and CTR's from assigned branches					
3.	Review all cash transactions (deposits/withdrawals) to determine reportability to the IRS					
4.	Communicate with branch management regarding CTR's not received or incomplete					
5.	Maintain internal logs to document errors, late CTR's, and IRS filings					
6.	Perform special projects as directed					
B.	SYSTEMS/EQUIPMENT PROFICIENCY					
1.	Uses various mainframe systems					
2.	Operates a fax machine					
3.	Operates a copy machine					
4.	Appropriately uses the telephone for the research and resolution of problems					
C.	TERMINOLOGY/CONCEPTUAL UNDERSTANDING OF DEPARTMENT					
1.	Understands filing system utilized by department					
2.	Differentiate between different transaction types					
3.	Explain all aspects of bank secrecy					
4.	Has a working understanding of the Large Currency Department's function					

FLEET-BRADY

PROTECH TRAINING PLAN

1 = Not Applicable
2 = Exposed to task
3 = Performs task with assistance
4 = Mastered task
5 = Ability to demonstrate task to others

STUDENT: ____________________ **DATE** ____________________

DEPARTMENT/POSITION: Compliance/Operations Clerk

I. Department Procedures

		1	2	3	4	5
A.	TASKS					
1.	Continuously process & file all CTR's					
2.	Balance various general ledger accounts					
3.	Respond to inquiries by customers & branches, performing research when necessary					
4.	Perform follow up with branch staff and/or customers as appropriate					
5.	Research all discrepancies between DISC-LCR system & CTR's from assigned branches					
6.	Assist in the preparation and filing of branch administration reports					
7.	Type letters, memos and other documentation					
8.	Provide telephone coverage					
9.	Handle incoming and outgoing mail					
10.	Keep department filing current					
11.	Maintain internal logs					
12.	Perform special duties as directed					
B.	SYSTEMS/EQUIPMENT PROFICIENCY					
1.	Utilize computer to perform daily functions					
2.	Accurately use 10 key adding machine					
3.	Efficiently operate the telephone systems					
4.	Uses the fax machine					
5.	Operates the copying machine					
6.	Uses various mainframe systems for daily operations					
C.	TERMINOLOGY/CONCEPTUAL UNDERSTANDING OF DEPARTMENT					
1.	Develop a working knowledge of the Branch Support Department and all aspects of branch operations					
2.	Understand department filing system					
3.	Explain all aspects of Bank Secrecy					

FLEET-NUNEZ

BEST COPY AVAILABLE

The Role of Workplace Mentors

By Ellen Dunbar
Averill Career Opportunities Center
Saginaw, Michigan

High school students are moving into the workplace in greater numbers as school-to-work systems spread throughout the country. Many students enter the workforce on paid and non-paid work experiences without the skills to be productive employees. For many teenage students, a school-to-work experience is the first time they have been in a work environment or at least one requiring professional skills and behaviors. In some cases, students lack the maturity or work ethic to function well in the workplace without school and workplace support.

School support can be provided by instructional and counseling staff working to coordinate work-based and school-based curriculum and to respond to students' needs as they arise. In the workplace, mentors play a critical role. They set standards of performance and provide instruction and guidance to students. The Manufacturing, Engineering, Construction, Automotive (MECA) Partnership in Saginaw has found developing strong workplace mentors to be crucial to successful work-based learning.

The MECA Initiative

The school-to-work partnership initiated by the Averill Career Opportunities Center is called MECA, Manufacturing, Engineering, Construction, Automotive. The partnership is made up of representatives of local employers, primarily manufacturing and automotive companies, the community college, labor organizations and the Saginaw/Midland/Bay Job Training Administration. It was created in 1993 to provide eleventh-and twelfth-grade students with the entry-level skills that match the needs of area manufacturers.

As part of the partnership agreement, participating employers commit to a "Certainty of Opportunity." This states that when the student trainee graduates, the employer will hire the trainee, assist in placing the student with another partner or assist the student in continuing their education at the postsecondary level.

Following a one-year pilot of the work-based learning program, MECA became operational in the fall of 1994. High school juniors and seniors participating in machine tool technology, welding technology, engineering/computer drafting, building construction, heating and air conditioning technology, electricity, electronics, auto body technology and automotive technology programs at the center are eligible to participate in work-based learning experiences through MECA. Eligibility stan-

The Averill Career Opportunities Center, operated by the School District of the City of Saginaw *since 1972, provides technical and career education for more than 1,200 students each year. Eleventh- and twelfth-grade students from 17 area high schools throughout Saginaw County attend both day and evening programs.*

In 1993, the Center initiated its school-to-work partnership, MECA (Manufacturing, Engineering, Construction, Automotive). Last school year, 246 students completed the MECA project. This year 530 are enrolled.

dards, workplace curriculum and standards of behavior are established by the MECA Partnership.

Student trainees attend technical training at the Averill Career Opportunities Center two hours and 45 minutes a day and three classes at their area high school. They also work at their MECA site two hours a day during the school year and a minimum of 24 hours a week during the summer. The students are responsible for meeting employee standards during the hiring process and subsequently as employees. Companies set their own student wage scale and select workplace mentors.

Role of the Workplace Mentor

Mentors serve as coaches, instructors and evaluators of students in industry-specific and workplace employment competencies. They answer any questions the students have about their work assignment or the work environment and can serve as an advocate for the student should the need arise. They also serve as role models for students as students learn and practice good work behaviors such as on-time performance, dependability and meeting quality standards. Mentors also provide direct and critical communication links to the school and classroom instructors, allowing all concerned parties to address and resolve any workplace problems.

Regardless of the student's level of commitment to an industry, the mentor can provide occupational information related to that industry. This information allows students to develop and more sharply focus their career interests or to decide that the field in which they are doing work-based learning is not ultimately for them.

Besides providing instruction and opportunities for observation and hands-on work in a given skill area, mentors instruct students in the culture of the workplace. In the shop environment, for example, this instruction may include understanding the team approach to problem solving or descriptions of the organizational structure. Mentors may also instruct students on the value of each task in the workplace and how the students' efforts contribute to overall productivity.

Qualities of Mentors

Employers participating in MECA select their own mentors to work with students. These mentors work side by side with students, workplace supervisors or even company owners. We have found that successful mentors:

- Are interested in working with young people
- Are natural teachers
- View mentoring as an opportunity rather than just another work assignment
- Keep the relationship on a professional level and are careful not to betray confidences
- Are skilled workers who are willing and have the time to share their skills and knowledge with young people
- Set high standards for those they are mentoring.

Perhaps because we look for these qualities in all mentors, in the two years the program has been operating, MECA mentors have reported positive experiences with students. They talk with pleasure of the students' successes and enjoy the enthusiasm expressed when a student accomplishes a new task or develops an understanding of a new concept. To a person, mentors have been dedicated to providing sound educational opportunities for inexperienced students. Mentors recognize the opportunities that exist for students in the skilled and technical fields and frequently offer career information in their areas of expertise.

Preparing Mentors

Mentors are usually expert workers in their work environment, but most are new to the concept of mentoring or working with youth in the workplace. They are usually committed to providing quality work-based learning experiences for students, but need clarification regarding student and school expectations. A formal training program for mentors allows individuals from various organizations to meet each other and share ideas. It establishes a forum where mentors, instructors, counselors and placement personnel discuss the overall goals of a school-to-work system and any specific concerns they have.

Establishing Worksite Guidelines

Clear guidelines for mentors must be established to ensure that all students are treated equally and learn in a non-judgmental atmosphere. Open discussion about such guidelines provides the opportunity for mentors and instructors to establish common goals and develop a foundation for a positive long-term commitment.

From our mentor training sessions we have identified six general policy areas about which mentors and their employers generally have questions and need direction and clarification. A representative of the Averill Career Center meets with each mentor and employer before mentor training takes place to discuss these specific issues. Dealing with these issues individually allows us to address more general issues at our larger mentor training session. After the individual meetings, each worksite develops guidelines and procedures that address their needs. The six areas of concern (work-based curriculum, safety issues, attendance, measuring student success, work schedules and discipline) are discussed in detail below.

Work-based curriculum. When mentors and instructors work together to identify job skills, strong support of each element of the instructional process results. In MECA, we strive to integrate our curriculum, with school-based instructors providing skill development that supports the work-based components. Since mentors assist in curriculum development and curriculum implementation, instructors and mentors have a thorough understanding of each step of student training.

At our area skill center, we use the DACUM (Developing A Curriculum) process to facilitate this activity. During the process, expert workers in a field identify the main duties and tasks involved in specific jobs. (See Chapter 10 for an in-depth description of the process.) This analysis is conducted by a center instructor and the mentor or other employer representative. The employer identifies what the student needs to learn to perform the job, from simple skills to sophisticated transition skills. The documentation from the process becomes the work-based curriculum. Since workplace representatives cannot afford to spend large amounts of time away from their duties, it is important to use a concise format for curriculum development.

Safety issues. We have found that mentors are very concerned about student safety and are eager to work with schools to ensure that students are prepared and take precautions. Mentors have told us that although companies will put student workers through their own safety training, employers want students to arrive with a basic understanding of why safety procedures are needed as well as an attitude that takes this need seriously.

We have a safety curriculum built in to every occupational program at Averill Career Center. Since we began providing work-based learning through MECA, we have needed to broaden our safety curriculum and be more rigorous about the safety standards we teach to address the variety of workplace situations.

Attendance. Mentors need to know what the school's standards and procedures are for attendance in school and the workplace. They also need to know who their contact person should be if a problem arises. The contact person must be easily accessible and willing to respond to the mentor's concerns. Our school has established a "same day" response policy for all business calls.

Our partnership also established and instructors and mentors agreed to honor, a "no school, no work" policy. If a student does not attend class, the instructor contacts the workplace and the mentor sends the student home without work. To date, this policy has been extremely effective and students have responded to it with improved attendance. Mentors' willingness to coordinate their efforts with classroom instructors adds credibility to classroom instruction and sends a clear message to students that the school-based and work-based components of school-to-work are part of the same system.

Measurements of student success. We have found mentors are reluctant to evaluate a student if they think the evaluation will be too time consuming or if they feel evaluation is always a negative experience. Once mentors understand that the evaluation tool is simple to complete and is a part of the learning experience to help the student improve performance, they are willing to honestly assess a student's performance.

MECA uses a simple evaluation tool that allows mentors to check the appropriate box or make simple notes to measure student success. School personnel should ask mentors to regularly evaluate this tool and modify the tool as needed.

Work schedules. We often work with mentors to establish student work schedules and we always let the mentor or supervisor take the lead in deciding what hours they want the student to work. Scheduling students' work shifts can be tricky because according to state law, any paid work experience must take place outside the regular hours of the school day. Rather than telling employers when students can work, we ask them when they would like the student to be available and try to work around their needs.

Discipline. New mentors often come in with misperceptions and misgivings about having to discipline students in the workplace. They fear students will be "acting out" and that they will have to take valuable time from their work to be a disciplinarian or a babysitter. What we have found—and what we tell mentors—is that discipline problems are very rare. When there is a problem, it is usually more a matter of the student not having fully internalized the work ethic (such as not taking deadlines seriously enough or coming in late) than a classic discipline problem.

We have recently established a procedure for addressing the problem of a student who is not meeting the expectations of their employer in terms of work performance and general behavior. We talk with the employer first to see if the supervisor and mentor want to address the problem themselves by meeting with the student (this is most often the case). If the employer asks school personnel to intercede, we generally have the school counselor or a key teacher meet with the student (and possibly the students' parents) to discuss the problem and seek to resolve it.

Mentor Training

We conduct mentor training at the Averill Career Opportunities Center whenever we have a significant number of new mentors, with all instructional staff and mentors attending. This gives the mentors the opportunity to see the facilities, tools and equipment the students use during their classroom training and to become familiar with the center.

When we started the MECA initiative, we conducted a 12-hour mentor training program. We found this provided an avenue for the companies to express what they needed and gave the Center a chance to respond. We brought in an outside facilitator to help the center staff and mentors establish guidelines for communicating between the schools and worksites and to develop systems for placing students in the workplace. By using a neutral party, everyone became equal partners in the discussions and decisions.

With the institution of the individual meetings with mentors referred to earlier, we shortened the mentor training to a four-hour session. The shorter training program allows individuals who can not be absent from the job for more than four hours to participate. The training focuses on information sharing and problem solving.

We structure our training program to meet the following 10 objectives:

- Introduce all players
- Provide a tour of the education facility
- Develop a communication system between all concerned parties (mentors, instructors, counselors and supervisors)
- Provide an overview of the school-to-work system
- Develop common expectations of student success criteria
- Share motivational techniques that encourage students to learn on the worksite and in the classroom
- Discuss cultural diversity issues to encourage increasing numbers of minority, female or disabled students to succeed
- Share mentors' concepts of work-based learning opportunities

- Define roles and responsibilities
- Provide the opportunity for new mentors to discuss issues with an experienced mentor.

Importance of Written Materials

We have found it is important to give mentors copies of all materials associated with the school-to-work system. They are interested in the student's school activities, the trainee application process and student selection criteria. Many of our employers even include the mentors in the interview and hiring process. By providing mentors with copies of all school-to-work materials, such as the student application and the parents' guide, the mentors are encouraged to become a part of the system.

We also found it essential to develop a written guide to help answer mentors' questions. The MECA guide provides an overview of the school-to-work system outlining the roles and responsibilities of all stakeholders. It also contains information regarding the attendance policy, the school layout, staff directory, child labor laws, an insurance liability fact sheet and the parent agreement and commitment form. Using this information, a mentor can discuss areas of concern with the appropriate people at the high school or center. Mentors and academic partners review and make operational changes to the guide as needed.

Maintaining Ongoing Communication

Easy communication must exist between mentors and school staff. We have found phone contact, using a "same day response" policy for telephone messages, is the best way to maintain frequent communication. Direct telephone conversations between mentors and instructors, or between mentors and counselors, allow all parties to review curriculum needs or respond to trainee needs.

The three most common concerns that need immediate attention are:

- Did the student attend class today? Did the student have an excused absence from class?
- The student is having difficulty understanding a concept. Can the instructor provide additional instruction?
- The student indicated frustration about the current job responsibilities. Would a school representative please speak with the student?

During monthly partnership meetings and in visiting the workplace and talking with mentors, MECA staff learn of student needs and then respond to those needs. These conversations, along with curriculum focus groups and the workplace curriculum development process, drive change in the classroom as instructors and employers work together to provide school-based and work-based learning opportunities.

Mentors and Student Evaluation

An evaluation process at the worksite is essential to help students identify their strengths and weaknesses on the job. Mentors have an important role here, but as mentioned earlier, the evaluation process must be well organized so it will not be too time consuming or focus only on negatives.

An evaluation form should contain items that are important to the employers and should be organized in an easy-to-use format. The MECA evaluation form is a one-page checklist. Averill Career Center staff developed a draft of the form which was tested at the worksites before being finalized. The form helps measure performance in 12 categories:

- Use of tools and equipment
- Quality of work
- Professional appearance
- Technical skills
- Initiative
- Quantity of work
- Maturity
- Safety
- Attendance
- Job dependability
- Relations with co-workers
- Communication skills.

Each category is evaluated on six levels. For example, under the category of quantity of work, the mentor may check the box that represents *very high, high, average, below average, low output, or unacceptable*. There is also a section for mentors to list and assess technical skills. At the request of the employers, the form includes space to indicate the times late for work and the days absent without notice. At the bottom of the evaluation form, an area is reserved for mentor's comments.

MECA mentors conduct student evaluations every six weeks. The mentor reviews the form with the student and both parties sign it before the form is returned to the school. After examining the evaluations, the student, school support personnel and the mentor together devise strategies for improvement. These strategies may target activities in the academic or technical curricula to improve specific skills. Or they may entail discussions with the student and student's family.

Special Issues

Building Relationships

Successful student/mentor relationships are based on trust, communication and the premise that all students can learn. The goal of this relationship is to support the students growth and independence on the job and encourage the individual to interact with coworkers. Mentoring relationships must be committed to open communication and the educational experience. This relationship can be intense, but it should not prevent the student from meeting and working with other individuals in the workplace. The mentor-worker interaction must be a business relationship, not a personal relationship. The worksite experience is intended to help a student make choices about his or her future, not channel that student into one job. Even if the student decides to change careers, go on to postsecondary education or take a job with another company, the mentor has been successful.

Dealing with Stress

As the work day becomes more and more hectic and deadlines approach, the mentoring relationship will be under added stress. Students can encounter individuals who are angry, shouting and difficult. At this point, students often begin to talk about changing assignments or quitting altogether. The student worker may need added support from the mentor or student counselor during this period of frustration.

A mentor can help the student understand that stress is created by deadlines and not directed at him or her personally. This allows the individual to relax and understand the environment. Listening to the student's concerns may be all that is necessary to put coworkers' actions into the proper perspective.

Importance of Listening

If a mentor presents an open mind and a willingness to listen, he or she communicates respect for the student. Clarifying a student's point or summarizing the student's comments tells the student that he or she is being heard.

Language can sometimes be a barrier to clear communication. The meaning of words and phrases change from generation to generation and from culture to culture. The mentor who is open minded and willing to seek clarification from students will develop trust and understanding in the mentoring relationship. For some students, just having someone listen to their view of the work environment builds their self-confidence and trust.

Acting as a Student Advocate

If a student finds it difficult to cope, the student's mentor needs to provide as much support as possible. In rare situations, students can find themselves working with people who expect them to have the skills of more experienced workers. They may be subject to name calling or constant criticism. When these negative situations occur, the mentor must become an advocate for the student to help resolve the problems. In extreme situations, resolving the problem may mean suggesting to the school that the student be placed in another work location.

Student Population

Mentors can expect to encounter many types of students. Students of all abilities will be involved in school-to-work. Some of these students will enter the workplace committed to developing skills in a chosen field, while other students enter the workplace without any idea of what their career goal may be. A small group of students will select an occupation out of curiosity.

Mentors need to understand the diverse backgrounds students bring into the workplace. A few individuals will be the only working members of a household. In isolated situations, the student worker may be the only person in the household to ever hold a job. Rather than providing support to the student, family members may tease the student about attending school or going to work. In other families, the trainee may find that members of the household become jealous of his or her success and want to share in the student's paycheck. A student may need emotional support from the school staff or workplace mentor to counter this home environment. For these students, a mentor can make the difference between success and failure.

Cultural Issues

An understanding of cultural diversity can prevent worksite problems from arising. Recently, a MECA student was criticized by coworkers for being too quiet and not being interested in the other members of the work team. After discussing this situation with the mentors and a co-worker, school personnel found that the student did not maintain eye contact with his coworkers and that this behavior was being interpreted as unfriendly. The student had learned in his culture that dropping his eyes showed respect for his elders. School personnel shared this insight with the student in a manner that respected his culture and then worked with the student to develop workplace behaviors that built communication with his coworkers.

The mentor-student relationship provides invaluable support for minority individuals in the workplace. Having a mentor of the same ethnic or national origin demonstrates to a student that she or he too can be successful in this field. Such a pairing also helps the student simply to feel more at ease in the workplace. If a student is the only minority or female at the worksite, the mentor needs to be open and aware of diversity issues and able to communicate and encourage the student. Mentors should help support an environment free of racial and sexual harassment. This environment will help the student feel accepted and valued.

Mentors who understand individual differences can provide a bridge for the students as they begin to adjust to a new culture and work environment. It is not up to the mentor to change the workplace. Rather, as the mentor recognizes each student's needs, he or she can contact school personnel. The school representative intervenes with the student or family to modify student behaviors and broaden the student's understanding of the workplace environment.

Helping Us Grow

As a new school-to-work system, MECA is very much in the growing stage, working with the business community to develop worksites and employer participation. The success of our program to date owes much to the training and preparation of worksite mentors. MECA has been able to alleviate initial employer concerns by directly addressing their questions about young people in the workplace and by establishing a clear, responsive communication system between the schools and the workplaces. As a result, more employers are supporting the program.

In August 1995, the Saginaw Board of Education voted to approve the formation of a Technical Academy at the Averill Career Opportunities Center. The academy will prepare students for employment in the manufacturing, engineering, construction and automotive skill areas during its first year. It will enroll eleventh and twelfth graders for the fall of 1995 and expand to include post high-school level courses in its second year of operation. The academy approach is the next logical step in the evolution of our school-to-work initiative.

Ellen Dunbar is the Director of the MECA Partnership at the Averill Career Opportunities Center. Prior to assuming this position she helped design and implement workforce training and retraining projects for the School District of the City of Saginaw.

CHAPTER 26

Teaching Workplace Competencies and All Aspects of an Industry

By Paul Weckstein
Center for Law and Education
Washington, DC

It's 1986, and you're sitting at a conference on promising new directions for vocational education reform. One speaker, though, carries a different message. He's a vice president for a multinational corporation and the head of its major local plant. He is not at all happy: "Just to give you some idea of the depth of the problem we have with the quality of vocational education—here we are, the biggest employer in our part of the state, and we use nothing but Wang word processors. Well, believe it or not, there is not a single high school in this area that trains students on Wang."

Soon thereafter, this corporation files for Chapter 11 bankruptcy. And we all know what happened to Wang word processors. So any vocational educators who took this message to heart, and had the resources to stock their school with Wang word processors and train teachers how to teach on them, would have been in real trouble. Their students, whose training was largely focused on mastering Wang word processing, would be in bigger trouble still, as they struggled to fill the hole left in their work lives by this combination of financial and technological change.

The Myth of the Perfect Match

Stories like this—and the broader recognition of economic change that underlies this story—have led more and more educators to question the adequacy of the skill-specific training model that typified industrial vocational education for decades. The limits have become clearer in the quest for "the perfect match," in which we ask employers to identify the numbers of jobs they will have and the precise skills needed to do those jobs, and then we identify precisely that number of students and equip them with those skills. At ever more rapid rates, labor markets change, making precise calculations of emerging jobs impossible. Even when the predicted job is there, the specific skill requirement changes with new technology and the reorganization of work. And even if we could get both the job and skill predictions right, matching them with adolescents' changing views of their adult career goals is hazardous. And how many schools can afford to pay for a whole new set of training equipment to match the yearly technological changes occurring in industry?

Finally, what becomes of "the perfect match" between education and jobs in those communities where an accurate picture of the labor market shows too few jobs to employ all the students and too many of the jobs that are available demanding low skills and paying low wages? Do we really want to match our children's education to those limited job possibilities?

General Occupational Skills

To cope with all this change and unpredictability in robust job markets, educators find themselves looking for "general" occupational skills that will serve their students well, come what may. This search for useful general occupational skills has been limited when it has been treated as an add-on to an unchanged curriculum based on specific technical skills. In some instances, general skills have been viewed as basic academic skills. In other instances, general skills have been viewed as employability skills—job seeking and socialization to proper workplace behavior.

In 1990, Congress, through the Carl D. Perkins Vocational and Applied Technology Education Act, advanced a different notion of general occupational skills:

> *The term 'general occupational skills' means experience in and understanding of all aspects of the industry the student is preparing to enter, including planning, management, finances, technical and production skills, underlying principles of technology, labor and community issues, and health, safety and environmental issues.*

This notion of giving students strong understanding of, and experience in, all aspects of the industry they were preparing to enter was then advanced through other parts of the Perkins Act and then became a central feature of the School-to-Work Opportunities Act of 1994. It is an explicit part of the general program requirements, the school-based learning component, the work-based learning component, career majors and the national system of performance measures for assessing state and local programs.

Defining "All Aspects"

"All aspects of the industry" (AAI) includes eight specific areas as follows:

- **Planning** is examined at the level of both an individual business and the overall industry. This aspect explores the various forms of ownership, including cooperatives and worker ownership, and the relationship of the industry to the economic, political and social context.
- **Management** addresses methods typically used to manage enterprises over time within the industry, as well as methods for expanding and diversifying workers' tasks and broadening worker involvement in decisions.
- **Finance** examines ongoing accounting and financial decisions and different methods for raising capital to start or expand enterprises.
- **Technical and production skills** cover specific production techniques and alternative methods for organizing the production work, including methods that diversify and rotate workers' jobs.
- **Underlying principles of technology** provide an integrated study across the curriculum of the mathematical, scientific, social and economic principles that underlie the industry's technology.
- **Labor issues** examine worker rights and responsibilities, labor unions and labor history and methods for expanding workers' roles.
- **Community issues** explore the impact of the industry on the community and the community's impact on and involvement with the industry.
- **Health, safety and environmental issues** examine these in relation to both the workers and the larger community.

Advantages of AAI

This focus on strong understanding of and experience in all aspects of an industry has a number of important advantages, which will continue despite any federal policy changes.

Skill Transferability. AAI immerses students in the concrete setting of a particular industry or cluster of industries as the basis for providing transferrable skills. Students get the benefits of hands-on, contextual learning without the risk of being locked into an obsolete set of skills. Students studying and working on all the basic issues facing an industry are equipped to (a) stay within an occupation whose specific technical skill requirements change, (b) move to a different job within that industry, or (c) work in an entirely different industry, which faces analogous issues. These skills are particularly valuable in industries moving in the direction of high-performance work organizations, which depend on broader worker discretion, flexibility and understanding.

Economic Development. An AAI approach can help create economic opportunities. The aspects enumerated (planning, finance, management, community issues and so forth) are precisely the skills needed for community economic development and entrepreneurship, starting new enterprises to address unmet community needs. This is especially important for students and communities in areas where not enough good jobs are available.

Increased Integration of Learning. An AAI approach provides a key tool for vocational educators to take the lead in integrating academic and vocational content and helping all students master the same challenging academic standards. When vocational skills are perceived as limited to those technical steps needed to carry out a specifically defined job, academic instructors may feel lost in figuring out how to integrate their disciplines with vocational educators. Integration may be mislabeled as "dumbing down" academic instruction to a limited set of tasks. When vocational skills are defined in relation to all aspects of an industry—and students are engaged in the planning, management, financial, technological, labor, community and environmental issues confronting that industry—opportunities for integrating academic skills are much greater.

For example, in a transportation program students don't just learn how to repair cars, but use physics and chemistry to grasp the technology of the internal combustion engine, history and literature to understand the automobile industry (including labor issues) and mathematics to finance their student-run repair enterprise or parse statistical data on environmental impact.

Democratic Ideals. AAI also allows us to maintain our democratic ideals for education while preparing for the world of work — a world of great inequalities. Actively engaging students in exploring and understanding all aspects of an industry avoids the necessity to separate students by occupation, between decision-makers/managers and those who only execute. And the richness of AAI as the basis for academic-vocational integration assures "vocational" students and their parents that they are not limiting their academic horizons, including their postsecondary education options.

How to Teach All Aspects

Many of the roots of AAI instruction can be found in the tradition of vocational agriculture, which has a very different history from industrial vocational programs. Had it followed the industrial model, vocational agriculture would have taught future farm workers mostly how to pick crops and to run and fix farm machinery. Instead, it has always taught students how to actually run a farm—from financing and marketing to soil chemistry, animal husbandry, botany and meteorology.

The Vocational Opportunity for Community and Educational Development (VOCED) Project of the Center for Law and Education works with communities and schools to improve vocational education to better meet the long-term needs of students and communities. It particularly focuses on issues of program quality (including academic integration and all aspects of the industry), equity, participatory planning and linkage to community development needs. Together with the Rindge School of Technical Arts in Cambridge, Massachusetts, it sponsors the Hands and Minds Collaborative, a teacher-based resource network for these kinds of reforms.

From our experiences we are able to identify some of the most useful methods for incorporating all aspects of an industry. Before describing these, it is helpful to consider a few preliminary points.

- An initial inventory of your school or school district will usually reveal that various aspects of an industry are addressed to some degree in educational programs. For example, it may be traditional for students to build a house every year (but not to select, design, finance or market it). To turn this into an anchor for AAI, students could plan and implement a construction business.
- Strategies for adding AAI components can range from the kinds of things a single teacher can initiate—such as an English or social studies teacher who assigns literature, research and writing tasks about the automobile industry or the food processing industry—to restructuring the program of an entire school.
- A school may already have in place some of the structures through which understanding and

experience in all aspects of an industry could be developed (including project-based learning, academies, student-run enterprises, or worksite reflection) but may not be using those structures to systematically teach all aspects of an industry.

General Approaches and Methods

The approaches described below are overlapping and mutually reinforcing, rather than exclusive choices. You can use these approaches as starting points on which to build.

School-Based Enterprises. In school-based enterprises students plan and operate a viable business or other economic enterprise to address significant unmet needs in the local community. As both a long-term curriculum project and a form of work-based learning, this can be a useful structure for building students' understanding and experience of all aspects of an industry. If the students, with assistance from teachers and others, really do the planning, financing and management of the entire operation, certain AAI aspects, along with related academic skills, will naturally emerge. The extent of student understanding and experience will depend on using these opportunities to dig deeper, linking them to reading assignments, additional research and so on. Other aspects such as environmental issues or principles of technology, however, may emerge only through conscious focus.

Community-Service Programs. These can provide a similar base for learning all aspects of an industry. Success, in AAI terms, will depend upon really integrating the community-service program into the core academic and vocational curriculum, involving all the students in planning and running the program and using every opportunity the program presents for reflection, analysis and student research. Without those dimensions, the educational potential of the community service placement will be diminished, whatever other virtues the service work may have.

Academies. These are typically schools-within-a-school, centered on an industry theme such as a health academy, aviation academy or finance academy and are another obvious vehicle for learning all aspects of an industry. Similarly, the move toward clustering together previously discrete occupational program areas under broader industry-focused clusters such as communication, public service or manufacturing, with integrated academic studies can provide a structure for AAI. As with the other approaches, however, the opportunity presented by the academy or cluster structure will be squandered unless the school consciously uses it to foster an AAI approach, rather than assuming that grouping specific occupational programs into a broader cluster will automatically translate into an AAI curriculum.

Cross-cutting Approaches. AAI can be built into the various components of vocational and school-to-work programs, whether or not part of comprehensive school-based enterprise, community service or academy programs. As the following section describes, AAI can be incorporated into:

- Short- and long-term student projects
- Vehicles for evaluation of student work such as performances and portfolios
- Work-based learning opportunities and the partnership agreements that govern those experiences
- School-based writing activities such as journals, questionnaires and reports in which students reflect on the worksite.

Examples of Teaching AAI

CLE has been working with a variety of programs that are incorporating AAI into a school-to-work system. Several of these programs have garnered national attention and demonstrated remarkable ability to increase enrollments, serve the widest range of diverse students, boost achievement, increase high school completion and expand students' educational and occupational aspirations.

The Oakland Health and Bioscience Academy

The Health and Bioscience Academy in Oakland, California, one of several academies within Oakland's high schools based on industry themes, is a school-within-a-school at Oakland

Technical High School. The Academy was created in 1985 to increase the number of nontraditional students successfully pursuing careers in health, medicine, life science and biotechnology. Students spend up to 80 percent of their day in interrelated academic and lab classes. They also participate in health and bioscience worksite learning experiences, including volunteer placements, interactive job shadowing, community development projects and summer and senior internships.

During the 1993-1994 school year, the Academy began to incorporate AAI more explicitly into the four activity areas listed below and to use AAI as a tool to analyze and improve its industry-based program. In each area, they were building on an established industry-related component that already had a significant focus on many AAI concepts.

Worksite Learning Experiences. The Academy had developed a sequence of work-based learning experiences. These experiences included monthly meetings and weekly contacts with industry mentors in tenth grade, along with 100 hours of volunteer community service in a hospital, rotation through a series of clinical, business and administrative departments at various health facilities in eleventh grade (along with weekly seminars with hospital staff to look at how particular jobs and units fit into the overall structure of the hospital) and paid health care internships during the summer before, and sometimes during, twelfth grade.

A number of steps were taken to improve the learning potential of the worksite experiences using an AAI approach, including:

- The school district established a work-based learning agreement, specifying roles and responsibilities for interns, schools, employers and parents.
- The district also established a work-based learning plan, specifying competencies interns are to demonstrate, including competencies in all aspects of the industry.
- Recognizing that students should not be sent into the worksite experiences unprepared, the teachers now engage students in developing questions that address all aspects of an industry, including questions on technology, the structure of work, safety and community impact.
- Teachers and department supervisors now meet regularly, and teachers participate in job rotations to better integrate student job rotations into the academic curriculum.

Student Portfolios. Academy teachers revised the student work-based learning portfolio to help students reflect on what they are learning through classroom and seminar assignments at each stage of their worksite experience. Working with the students, the teachers first developed clearly stated definitions and examples of each of the previously defined eight aspects of an industry. They then asked students to create portfolio work samples that demonstrate their knowledge, understanding and application of these specific aspects in the healthcare industry and how they interact.

For example, a student might use several visits to the Neonatal Intensive Care Unit to explore the management structure of a clinical department or how that department uses planning. Or a student might do a photo essay on health and safety precautions in the genetics lab as part of an AAI work sample. Or a student might interview a lawyer from the Kaiser Permanente Legal Department about the legal aspects of medical ethics and then respond to a case study the department provides. Students look at everything from accreditation to facilities management to nutrition to social services. They approach the AAI requirements with a clear sense that what they are being asked to do builds on what they know and is worth doing.

Teachers were struck by the strong sense of professionalism students demonstrated in developing work-based learning portfolios. They noted, "We cannot underestimate the value of clearly stated, quality performance criteria for all aspects entries and the importance of teaching students how to use these criteria in helping shape the work they do."

Student Projects. The academy has found student projects to be an excellent way to integrate coursework from several subjects and engage students in exploring all aspects of a real industry. All single courses involve small projects. For example:

- In biology labs, students produce reflective journals on individual health issues, complete career searches and publish pamphlets for the student health education center
- In English, students write and illustrate children's books related to health or science themes and then visit classrooms and a children's hospital as story tellers.
- In government/economics class, student teams work with city planning graduate students to produce a redevelopment plan for a hypothetical city and then apply the lessons learned to Oakland.

Often the small projects involve simulations in which students review the kind of information and make the kinds of decisions and recommendations that confront a particular health practitioner. For example, in physiology, they read a case study of a lead-poisoned child, interpret the results of a blood test and create a medical management plan as though they were a public health nurse. They then perform a lead poisoning risk assessment in their own neighborhood, as though they were a public health outreach worker. When structured well, these simulations present many opportunities for students to learn about AAI—about particular health occupations in relationship to other specialties, about community impacts and about managing patient situations.

Major projects cut across the curriculum and last several months. The Academy has found that the projects work best when there is one home-based class, such as science lab or English that coordinates students' work on the project.

In tenth-grade HealthWorks, student teams explore healthcare delivery systems by planning a utopian school-based clinic. This forces them to confront a wide variety of issues, including location, medical focus, physical design, financing, public support, confidentiality issues and treatment modes. In 1995–96, students will begin working with health professionals and other in the community to open and manage a school-based clinic.

In eleventh grade, student groups in the Health Education project select a health issue on which they think teens or another group in the community need education. They then research the topic and meet with experts, get training in health education strategies, prepare newsletters and pamphlets that meet professional standards and make presentations to the target group.

In twelfth grade, student' senior projects must produce a real product of use to someone else, based on research using community resources and integrating their previous experience.

There is strong postsecondary articulation. Working with the community college radiologic technology program, staff successfully overcame concerns about how AAI could be applied to health care in an accreditation-driven curriculum.

The Youth Enterprise Network

In Chicago, Bethel New Life, a community development corporation that helps create local solutions to community needs, took a lead role in establishing the Youth Enterprise Network. YEN helps start student-run enterprises and build them into high school curriculums, most extensively at Orr High School and Flower Vocational High School. Flower demonstrates how to teach all aspects of an industry through school-based enterprises.

A Key Part of the Community. Flower is located in West Garfield Park, a lower-income community on the West Side of Chicago. The school has viewed the unmet needs of that community and the underused capacities of its people as an opportunity for both education and community development.

The community sees Flower as playing a critical role in holding the community together. When Flower was threatened with closing because of its small size, the community rallied to reverse the central office recommendation.

Career Clusters and Student Enterprises. Flower, which is part of the Coalition of Essential Schools, is divided into career clusters. Each cluster includes a team of academic and vocational teachers and other staff, with one lead teacher. The teachers work with students, parents, counselors and business and community representatives to design and implement the program for the cluster. Parents and community residents guide the overall program and help make sure that the educational efforts are related to real community needs. Parents may themselves receive entrepreneurship and business training.

At the center of each cluster is a school-based student-owned and -operated venture, serving the whole community. Students research needs and plan, develop and operate businesses to meet those needs. All students take a small business ownership class, in which they develop ideas for new enterprises, subject those ideas to close scrutiny and develop a business plan.

For example, one group of students presented a business plan for a day care center. The presentation included organizational charts; a detailed floor plan for the center; policies concerning hours, pick-up and pricing; how it will meet the detailed state licensing requirements; a marketing plan; a management plan, including numbers of workers and responsibilities of each; and financing plans, with a targeted bank, loan amount and contributions from each partner. The presentation was taped, and students view the tape later to analyze how they could improve.

It is the students' development of these plans in the SBO classes that drives the establishment of new curriculum clusters. This keeps the curriculum moving forward in ways that make sense to students. For example, the recognition that students planning the day care center did not have the accounting background necessary to deal with the finances led to plans to teach accounting the following year.

Student-run enterprises at Flower now include:

- **Crediteens,** a credit union at the center of the financial services career cluster. A division of a federally-chartered credit union, it establishes individual savings accounts for students and parents and provides financial management and budget counseling sessions. In the 1995-96 school year, it will also start making loans to credit union members, to the Youth Enterprise Network for starting the school-based ventures at Flower and two other Chicago high schools and for a "seed money" pool for students starting entrepreneurial projects.
- **Flower in Action (FIA),** part of the construction trades cluster, which focuses on rehabilitating old buildings (including drywall, painting, plumbing, electrical work and fencing), landscaping and other community beautification. Flower in Action also plans to work on construction of the day care center.
- **A student supply shop, restaurant, and boutique** selling clothes and jewelry designed by the students.
- **An information processing business.**

In addition to experience in research, planning and management, students learn about AAI by rotating through all jobs involved in running a venture.

Curriculum Integration. Teachers at Flower integrate the lessons of entrepreneurship and community economic development into a core academic/vocational curriculum. One student from each homeroom and all teachers, along with parents and business representatives, become part of Ventures Planning Teams to develop curriculum. In the process, they can use the concrete problems posed by planning and running the venture as the starting point for exploring all aspects of an industry. They also can go beyond to look at broader issues of the industry illuminated by science, literature, history and mathematics.

Starting and running a business gives students in-depth opportunities to engage in planning, finance, management and other components of AAI at a level that goes way beyond what a student is generally permitted to do as an intern with an outside employer. Nevertheless, there are aspects of an industry that may not be apparent solely from running a school-based venture. Thus, the involvement of business representatives and resource providers from non-profit organizations—for example, as mentors with whom students can apprentice to learn more advanced techniques—is important to Flower's success.

The Rindge School of Technical Arts

Rindge School of Technical Arts (RSTA) in Cambridge, Massachusetts, offers students a four-year program integrating the study of the local community and economy with a wide range of work-based learning opportunities. Rindge sees the community as a laboratory for the students and the school serves as a resource for the community. Like Flower High School, the restructuring of RSTA was explicitly built around implementing the 1990 Perkins reforms. This is reflected in the school's stated Program Goals, which are:

- The integration of vocational and academic education
- The movement of vocational education from occupationally-specific, narrow, skill-based training to "all aspects of the industry" instruction
- The forging of links between vocational education and community economic development efforts.

The City. The ninth-grade program uses the city as the principal "text." CityWorks is a course with individual and team projects focused on Cambridge's neighborhoods and industries. Students spend a portion of each day actively engaged in investigating the industries, neighborhoods, systems and people that make up an urban community. They then make maps, take photographs, draw architectural blueprints, build models and write up interviews and oral histories to consolidate and communicate what they learn.

In the process, they begin to develop new technical skills (for example in making a wall-sized map of the city to scale and wiring it to light up particular features) as well as academic, problem solving and presentation skills.

Community representatives and city agency staff help identify unmet community needs that student projects could address and serve as an audience for students' finished products and presentations. This enriched curriculum has replaced the traditional ninth-grade "exploratory course," in which students rotated through shops.

A related, double-period CityLife course integrates language arts, world literature and ninth-grade world history by looking at the life and work of urban dwellers, and how the earliest permanent settlements evolved into the cities of today. And a related, double-period CitySystems course integrates math (ninth grade geometry) and science, using city themes. The course includes material about Cambridge, focusing on measurement, systems and structures, mechanics and ecology.

Students at RSTA previously took their academic classes in other, non-vocational facilities. Creating these academic courses within RSTA allows for much more integration while still covering the same concepts.

The Workplace. In tenth grade, the workplace becomes the principal text. Through "Pathways," students develop essential workplace skills and contribute to the school and larger community by working on a variety of projects that use the tools and materials from RSTA shops. The projects include desktop publishing books for kindergartners, operating a restaurant or converting trucks to electric vehicles for the city. School-based lesson plans, linking traditional academics to career demands, are combined with job-shadowing. Each quarter, students focus on a different career pathway cluster: Health and Human Services, Arts and Communications, Industrial Technologies and Engineering, and Business and Entrepreneurship. Each career path includes a multidisciplinary team of academic and vocational teachers, counselors, and community partner advisors.

Each student completes at least four job shadowing experiences, one in each of the four industry pathways. These require professional interaction with employers, often in a provocative workplace environment such as a hospital emergency room, a county jail cell block, a DC-10 cockpit or the Boston Stock Exchange trading floor. Throughout, there is an emphasis on all aspects of the industry.

Industry Specialization. In the eleventh and twelfth grades, students decide which of the career pathways they want to investigate further. Building on this broad foundation, students delve deeper into particular industries. They do this through integrated coursework, school-based enterprises and youth apprenticeships, combining work-based learning with a full academic course load. Students develop technical competencies, produce real goods and services and delve further into all aspects of a particular industry.

Implementation Issues

As these three examples show, a school or school district needs to address several issues when planning an AAI approach including:

- **Relationship to overall school restructuring and academic reform.** There is growing recognition that the characteristics of experiential learning programs—such as hands-on learning, tackling real problems, mentoring and coaching relationships and students demonstrating skills through a project—are all at the heart of good academic instruction for all students. At the same time, schools are grappling with how to fulfill the promise of enabling all students to reach the same challenging academic standards. School restructuring into smaller, more attentive units —which have equivalent academic standards but are distinguished by a particular theme, such as industry—are one promising direction. An all-aspects-of-the-industry focus helps ensure that academic equivalence and provides the rich text for student exploration and engagement.
- **AAI as a method of inquiry and exploration.** While AAI includes at least the eight aspects enumerated in the law, we urge educators to view it as a dynamic system, not a static checklist of issues. The "all" is intended as a prod to keep going deeper — as deep as imagination, analysis, hard work and practical engagement will take teachers and students. AAI's capacity to spur this kind of creativity becomes evident when you ask groups of vocational and academic teachers to develop ways to keep bringing in each of the aspects and integrate them into a whole.
- **AAI as a structure for ensuring educational quality in school-to-work.** An AAI focus can help you answer these questions about your program quality: Does the workplace experience really give the student a strong understanding of and experience in all aspects of the industry, and not just repetitive tasks providing the student with a place to be and extra dollars? Is the structure for integrating academic and vocational education really using all aspects of the industry, as opposed to dumbing down the academics to make it "relevant" to a very limited notion of what a worker needs to know? Are different clusters within the vocational program truly academically equivalent, though based on different industrial themes?
- **Disabling misinterpretations.** Where AAI is given short shrift, it often gets misinterpreted in ways that drain it of its real meaning and value. For example, instead of expanding to truly deal with all aspects of an industry, it becomes limited to only those aspects that someone thinks a worker needs to know to perform one particular job. Or "strong understanding of and experience in" AAI gets turned into mere, passive "exposure." It cannot be measured in terms of the number of contacts with, or extent of involvement of, industry. The contacts and involvement must focus on engaging the students in all aspects of the industry. You will need to be sure that all parties involved have a deep understanding of what AAI is about.
- **Teacher fears that they don't know all aspects of an industry.** Teachers cannot, and need not, be instant experts on all aspects of an industry. Instead, they need to serve as guides so that students can formulate useful questions and figure out where to go for answers. They should use this opportunity to connect to people in the community who have expertise on specific aspects. (Vocational teachers often have greater experience and comfort with this "teacher-as-guide" approach.)
- **Teacher concerns that they can't fit AAI into a tight schedule.** While making use of limited time is always a real problem, AAI can actually help by providing a set of guiding ideas to give a program overall coherence. AAI can pull together what may otherwise be fragmented components of a program. This occurs by broadening the notion of work and industry so that it becomes easier to integrate challenging academic skills, by opening up more possibilities for cross-disciplinary projects and by being able to make more of the worksite

experience. Schools must be prepared to address the structural issues that are central to any serious effort at comprehensive reform—such as scheduling, graduation requirements and common planning time to develop integrated curriculum.

- **Planning for curriculum vs. planning as curriculum.** With an increased emphasis on establishing partnerships to plan programs, there is a danger that too much will be decided up front (which industries, what projects, which school-based enterprises and so on), depriving students and teachers of valuable opportunities to make the planning process itself a key part of the curriculum. As the community needs assessment process at the institutions cited here make clear, some of the most exciting AAI-oriented curricula are based on students and teachers trying to figure out their communities' unmet needs and untapped resources. These needs can then generate ideas and plans for specific, industry-focused projects. Students engaged in a school-based enterprise or an economic development effort that they had a hand in identifying and shaping are more likely to stay with it and get more out of it. (But make sure that this does not become an excuse for lack of planning.)

- **Quality, equity and participatory planning.** Program quality and equity should be seen as mutually reinforcing, rather than as competing concerns. As the three examples in this chapter demonstrate, restructuring programs around engaging, active, all-aspects-of-the-industry curricula makes it much more possible for a diverse range of students, including those with disabilities, limited English proficiency or educational disadvantages to succeed in high-standards learning environments. At the same time, overall curricular improvement cannot substitute for addressing the particular needs of individual students for supplementary services. The quality and equity of the program are also affected by the extent to which all affected groups are involved in planning, developing and evaluating the program.

- **Primacy of the kids and the education process.** As partnerships are developed, it is critical that teachers and students not lose their independence. This requires grappling with the question of whose version—for example, of environmental issues—students are hearing. For the same reason, it is important to recognize that work-based learning cannot alone carry the full weight of exploration of all aspects of the industry. The reflection and analysis that must accompany it need to occur in school-based learning.

A Final Word on AAI

In determining how to address all aspects of industry in a school-to-work system, it is important to keep in mind that AAI is completely open-ended. More than anything else, it is a way to excite and engage—an incentive for teachers and students to keep going deeper, to use their imagination as well as their powers of analysis to grapple with the full range of issues found in an industry, and how they interrelate.

The eight aspects of AAI are only a checklist to use as a starting point (some AAI advocates have recommended ethics as a ninth aspect). They provide a useful set of criteria for structuring programs and for determining whether those programs are really fulfilling their educational promise.

Paul Weckstein is co-director of the Center for Law and Education. For more information on the programs and approaches described in this chapter, contact CLE at 1875 Connecticut Avenue, NW, Suite 510, Washington, DC 20009; (202) 986-3000; fax, (202) 986-6648; e-mail, HN1669 @ handsnet.org.

Other Resources

The three school descriptions are based partly on written information from the schools and from information in:

Lessons from the Field: The Implementation of All Aspects of Industry. Published by the National Center for Research in Vocational Education, in collaboration with the Center for Law and Education, Jobs for the Future and Learning Research & Development Center, 1995.

Another resource is:

School-Based Enterprises: Productive Learning in American High Schools. By David Stern, James Stone III, Charles Hopkins, Martin McMillion and Robert Crain. San Francisco: Jossey-Bass, 1994.

CHAPTER 27

Creating Work-Based Opportunities in Rural Areas

By Kathy Proctor
Grand Coulee Dam School District
Coulee Dam, Washington

Are you in a rural or economically depressed area? Can you list the number of employers in your district on 10 fingers? Are you finding it difficult to find appropriate work-based opportunities for your students? If so, you're not alone. You face a problem shared by many other districts. The Grand Coulee Dam School District confronted this problem and found a way to cope.

As teachers, we weren't satisfied with how we prepared our students. Although our dropout rate was only four percent, many graduates were making uninformed choices for their postsecondary education or training. Once in college, many graduates found they were not prepared for or interested in their chosen field. We had no statistics to document our perceptions, but as in any small community, we quickly heard about any student who dropped out of college, switched majors or changed jobs. It was obvious to us that many of our graduates were spending at least a year after high school learning what they did not want to do for a living. As a school district we wanted to provide our students with more direction and support regarding the realities of the world of work.

Our district saw the need for changes in our educational system but didn't know where to begin. Our staff is small and our teachers are spread thin with all the extracurricular activities, technological changes and challenges of the classroom. Because we are a small district, we don't have the support staff that larger districts maintain that could help us achieve change.

We also lack a large business community to sustain comprehensive and sophisticated work-based learning activities. Because federal agencies provide the majority of our rural community's employment, the current downsizing and realignment of governmental agencies has affected the local business community. A high school graduate seeking local employment is limited primarily to jobs in service and tourism. Graduates' options are to leave the community, enter the military or enroll in postsecondary education, which is not locally available.

The Grand Coulee Dam School District is an isolated community in rural north central Washington. *The district serves students from five counties, five small towns, the Colville Confederated Tribes Reservation and the non-high school districts of Keller and Nespelem. Lake Roosevelt High School, the only high school in the district, has a population of 380 students in Grades 9-12, including students in the alternative school. Nearly half of the secondary students (47 percent) are Native American.*

Ours is a diverse community largely dependent on tourism and governmental agencies for employment. Major employers include the US Bureau of Reclamation, Grand Coulee Dam Project, Department of Interior; Coulee Dam National Recreation Area, National Park Service; Bureau of Indian Affairs, Department of the Interior; Colville Confederated Tribes; Indian Health; Colville Tribal Enterprises Corporation; Coulee Community Hospital and Intermediate Care Clinic; and the Grand Coulee Dam School District.

In this chapter I'd like to introduce you to the program that is working for us. It is a project that does not need a great deal of money to function, but operates best with a staff that is willing to make changes. This is a project that can be started small and then expanded to fit the needs of the community.

Making the Most of What We Have

The basis of our strategy has been to creatively find ways everyone in the community—from the school custodian to retirees—can contribute something toward providing students occupational learning opportunities.

With the support and involvement of the entire community, our school district has now completed two years of developing and implementing a system that integrates work-based (vocational) learning skills with school-based (academic) learning skills. High school students now have more opportunities to gain work experience and students in all grades are learning about the world of work.

At the heart of our school-to-work system are school-based enterprises. The first of these projects was the Lake Roosevelt High School Credit Union, a fully operational branch of the Grand Coulee Dam Credit Union. Students are responsible for managing and running this active branch credit union including all of the services of any other financial institution. There are credit unions in other high schools across the nation, but we are the first to have a credit union in a high school building that is entirely managed, organized and staffed by students. Any member of the credit union can use the branch facilities. We are required to follow the policies of our main branch as well as all the federal and state laws dealing with credit unions.

Our school-to-work system also includes mentoring by employers; an extensive job shadowing program; career planning, exploration and counseling; applied learning curricula and skills certification. Members of the business community spend time with the students in the schools providing information about leadership skills, employment offerings, workplace responsibilities and other topics related to the world of work.

Inviting Everyone In

Involving every resource in the community you possibly can is the key to making a project of this scope and significance work.

In 1993, we began by holding community meetings every two months. The meetings were a means of beginning communication and establishing a common ground for dealing with students' career goals. School personnel first invited any community members who were likely to have questions or concerns about school-to-work activities and urged them to bring their friends. We sent letters about the meetings to parents, put notices in the local paper and spoke to civic groups. We also talked to the students about school-to-work and encouraged them to attend the meetings and to bring their parents. As a community, we developed a strategic plan that addressed the needs of all students. We used that strategic plan to implement school-to-work in our district.

Maintaining the Partnership

Our Partnership for School-to-Work Transition now includes virtually every business, government entity and service organization in our area. We hold parent/community meetings every other month. The school district serves as liaison, calling the meetings and sending out mailings. Between the regular meetings, the School-to-Work Site Council makes key decisions for the program. It also serves as the advisory committee for the grants we have received and determines in-service training for staff about school-to-work opportunities. The council is made up of students, parents, community members, school staff and high school administrators.

Each May we host a "Summit Conference" with the executives of all federal agencies, tribal, city government and business entities. This provides these leaders an opportunity to update themselves about the school-to-work program. It also gives us the opportunity to ask for support on specific projects.

Our classes frequently invite members of the business and professional community to participate as instructors, consultants and mentors. We make it a policy to attend a meeting of every civic organization in the area at least once a year to discuss the school-to-work activities. We also have an active system of vocational advisory committees to provide input into specific vocational areas.

Creating School-Based Enterprises

Because we have limited workplace opportunities for our students, we had to develop accessible, work-based experiences for young people within their own community. The partnership suggested operating school-based enterprises, beginning with a credit union.

School-Based Credit Union

An important component of the credit union project was the cooperation of the other financial institutions in the area. When we began the development of the project we did not want to alienate the rest of our financial community. We met with the managers of our local financial institutions to determine whether any of them would be able to work with us on such an enterprise. We outlined everything the project would entail, including cost figures and personnel time commitments needed to develop and continue operating the branch. After determining that no other institution was prepared to accept our proposal, we encouraged the managers and their staffs to work with students in the classroom on issues related to credit, budgeting and financial responsibilities. The time spent with representatives of these financial institutions was essential to making the project work in our community.

We instituted a student board of directors to set up and operate the credit union. Students were required to attend leadership training and then apply for positions on the board of directors. Each student prepared a short biography and ran in an election open to credit union members. The board of directors developed a business plan, prepared a policies manual and hired personnel. As part of their duties, board members handle all personnel matters, including terminating one student employee.

Students have been responsible for making this a full-service credit union. The board is charged with investing assets and following the growth of their investments, preparing and accepting loans and determining credit. The local credit union provides personnel to work with and train the students. Electronic Data Systems of Dallas, Texas, was instrumental in providing the computer software and programming to allow our students to go online with the main branch and yet keep all main branch accounts confidential. The board instituted a check-and-balance system that ensures that no one individual can secure access to the account of a credit union member.

Our Greenhouse and Future Projects

Following the success of the credit union project, our biology department started a business selling red peppers and herbs to local bed-and-breakfasts. At the beginning of the 1994-95 school year the students decided to build a greenhouse in a book closet. With a small loan from the student credit union, they purchased plastic pipe and potting materials. They then contacted the sheriff's departments in two counties in the school district, which gave them grow lighting, aluminum stacking beds and several other items confiscated from illegal growing operations. The sheriff's departments were enthusiastic about providing this equipment for the education of high school students.

This project followed the same procedure of student operation used in developing the credit union branch. Students formed a board, planned the project, wrote a policy manual and hired personnel. The students sold their first crop four months after beginning operation and the board hired students through the summer months to water, maintain and harvest the crops. The goal of the student board is to build a greenhouse adjacent to the biology lab and expand the crop line.

In the fall of 1995, we will start a student store using the same basic business model. Having a student board and student employees allows many more young people to become involved and to gain work-based experience. Each student-run project has a faculty coordinator or advisor to work with the students. Suggestions for new businesses include catering, recycling and a secretarial service.

Additional Work-Based Options

Job Shadowing

Our other primary access to work-based experience is through job shadowing. We have been offering job shadows for two years, but the program really took off in January 1995, when two members of the high school staff were reassigned to work half-time to develop job shadowing work sites. (At the time the high school was having a reduction in force and two full-time employees were given this new half-time job rather than being laid off completely.)

These staff members explained and promoted job shadowing to their friends, to the Chamber of Commerce, Rotary and other community groups and to students and school personnel. By May 1995, 75 students were going out on job shadows.

At the ninth-grade level we now begin offering job shadowing opportunities to all students through our Career Connections project. Job shadowing experiences are either half-day or a full day. The length is determined by the person being shadowed. The school district provides basic guidelines to people interested in providing a job shadowing experience. They are asked to show the student, as much as possible, activities that are part of a "normal" day; to complete a brief sheet evaluating the student on dress, politeness and curiosity; and to give feedback to the student during a 15-minute period at the end of the job shadowing. The specifics of the experience, however, are left up to the job shadow hosts.

For example, the supervisor of Steamboat Rock State Park offers three one-day shadowing experiences (not on consecutive days) to four students at a time. During the first experience, the students learn about budgeting and making reservations. The second day, students are taken all through the park. During the third day, the students learn about the logistics involved in maintaining the parks.

We are developing a broad-based cadre of job shadowing opportunities that will access all job sites and offerings in the community. In addition to arranging for shadowing experiences with community members, we encourage all school staff members to both provide a shadowing experience and to shadow in another job. Secretaries, janitors, teachers, aides and cooks are participating. Not only are we finding out about the community, but we are building strong ties with business.

The job shadowing component is growing by leaps and bounds. In fact, we have had to place limits on the number of times students could do a job shadow. Some days so many students were out on shadowing experiences that the classrooms were empty.

Mentoring

In the tenth and eleventh grades, we begin a series of mentoring opportunities for students. We invite the participation of any community member who could conceivably serve as a mentor. Mentors come from the business community, faculty, parents and outreach specialists who work with individual students. These mentors work with students in a variety of ways. They may take a student to work with them on the job site, help find career information and make the contacts needed for students interested in a certain field, or simply provide a model of dealing with the rights and responsibilities of the workplace.

Cooperative Education

In the twelfth grade, we offer a cooperative work experience program in which approximately 40 percent of our seniors participate. We would like to expand this to give all students an opportunity to participate in a paid work experience. We have yet to determine how to implement universal co-op experience and how it would fit into our comprehensive education plan.

Connections to the Curriculum

We use the work-based learning opportunities we have created and activities associated with them, to help students integrate academic and vocational learning about the work world. Students are required to apply for any mentoring, job shadowing or paid work experience opportunities. Employers interview each applicant, allowing students to gain interviewing skills and to use their resumes. In English class, students learn about job applications, letters of recommendation and making telephone contacts. Students are also taught how to prepare resumes and biographies (needed if running for a student board). Social studies classes prepare students for the economics of using, working in or directing the credit union.

The vocational and academic teachers are working together to integrate occupational and academic learning. They began by looking at components of our curriculum that already included integrated concepts. For example, the chemistry teacher and the home economics teachers were already doing several lessons together. These included baking bread (to learn about gases and chemical reactions) and tie-dying t-shirts to learn about natural and chemical dyes. Physics classes were using the physical education department's weight room to learn about weights and measures. Teachers looked at these examples and began brainstorming about other opportunities. One of their first decisions was to replace book reports with written reports about career interests and career activities.

Certification

Washington state is mandating that all high school students be tested and certified to have achieved a certain level of competence in academic skills. In addition, our district is initiating a certification program in occupational areas. We are just starting to work with employers providing work-based learning to develop such certification.

We are also working on an agreement with the WordPerfect Corporation that will allow us to certify students as to their competencies in using several different kinds of industry-standard computer software. We would like to begin a program where we could offer certification services to businesses in the local community and certify their workers as to competence in WordPerfect programs. Workers would come in to the high school and take tests to be certified at different levels. This would benefit both the community and school and would allow us to truly follow a school-to-work philosophy.

Applied Learning

We currently offer applied mathematics; an applied communications block that includes ninth-grade English, keyboarding and technology training; and an applied humanities block that includes language arts skills, social studies concepts and career planning and development information. We also are developing a curriculum that will combine tenth-grade English and biology to focus on scientific reasoning and technical writing.

Career Planning

Our Pathways Program

Work-based learning experiences are also closely connected to our school district's career guidance program, which we call "Pathways."

The Pathways program divides our basic curriculum into five general career paths—Engineering, Scientific and Technology; Business and Marketing; Industrial Technology; Home, Health and Social Services; and Arts and Communications. Each field has an entry, skilled and professional level. Students choose a career path and then develop an academic plan coinciding with their pathway and level.

Students make initial choices about their career path in ninth grade. They are not locked into a specific path at this time because the course requirements are broad-based enough to allow for flexibility. If a student is no longer interested in a specific career pathway and wants to begin work in another, that transition can be made easily. Students can even pursue two different paths for a while.

Students choose ninth grade job shadows that relate to the career path or paths they have tentatively chosen. Job shadows give students a better sense of what careers they do—or don't—want to pursue and help them narrow down their path choice. By tenth grade, students are usually more sure of their career path and many move into positions in school-based industries that relate to their path (such as working in the credit union or school store if they are interested in Business and Marketing). The cooperative work experiences in twelfth grade are closely connected to the student's chosen career field.

Personnel in our Career Pathways Center—a central place in the high school for career information—collect information on available job shadows and mentoring experiences and help guide students toward experiences that will help them learn first-hand about their career interests. One way we have been able to afford hiring a full-time person to perform this and many other duties in the center is by hiring a skilled paraprofessional rather than a certified counselor.

Each student draws from work-based experiences in developing a career portfolio, which we call the PREP (Personally Responsible for Excellence Portfolio). The PREP concept stresses students becoming personally responsible for their future. Through work-based learning, students develop resumes, collect letters of recommendation and work on journal entries or written reflections about different work experiences. All this material becomes part of their PREP.

Career Information in the Classroom

We also are putting career information in all high school classrooms. This information is being used in Chapter I and special education classrooms as a source for the reading curriculum. Career options and career development activities are often subjects for term papers and technical writing projects.

At the middle school, we are providing information on careers and having students set initial goals about career options available to them. Students also visit local businesses to learn more about how a business functions and the types of jobs available in the local area. Using the local employer connections we have developed, we also are beginning to provide career awareness opportunities in Grades K-6.

Serving All Students

We try to ensure that every high school student enrolled in the Grand Coulee Dam School District, including those in special education classes, has the opportunity to participate in our school-to-work program. Every student has the opportunity to prepare a career planning portfolio and participate in any element of the school-to-work system. Students in our Alternative High School and in our special education program have taken advantage of the leadership training offered as part of our credit union. Our vocational director participates in the individual education plan (IEP) process for all special education students and meets with parents during the IEP appointment. Our Pathways personnel includes all special education and Chapter I-eligible students in training sessions to meet the individual needs of those students.

Advice for Rural Areas

- ***Involve everybody in the partnership and give credence to everyone's opinions.*** In an attempt to respect everyone's opinions, we take few votes on issues. Instead, the partnership and the school-to-work site committees usually make decisions by consensus. We have been successful working through problems and concerns.
- ***Keep the structure for work-based opportunities flexible and unbureaucratic.*** To encourage all types of employers to participate, we give employers a lot of leeway in how they want to structure job shadows, mentoring and cooperative work experiences. We try to have almost no "red tape" in the process.
- ***Keep the partnership structure as informal as possible and make it easy for people to participate.*** The school-to-work site council at our high school has three permanent members: two co-chairs, one from an academic department and one from the vocational department and the

school-to-work coordinator. The rest of the members are school personnel (including teachers from the elementary school) and students who are able to attend a meeting when one is called. Thus the membership is not always the same at each meeting.

• ***Take advantage of what already exists.*** We have been able to keep expenses fairly low by being creative in identifying existing resources (such as the equipment for the plant business) and asking for them. Our retirement community has been an outstanding source of information and expertise on several activities.

• ***Use smallness as a strength.*** One of the advantages of a small, rural school system is that staff has an opportunity to make a difference with all students. We can make the time to spend with individuals and we are able to follow through on activities and make sure that students are taken care of. Use this to help provide the support and direction the students need.

• ***Use paraprofessionals creatively.*** The decision to hire a paraprofessional to run the Pathways Center takes advantage of this. We were afraid the budget cuts in education from the federal and state government would prohibit the continued employment of a certified counselor to handle career planning. Now our guidance counselors can concentrate on dealing with students' problems and the Pathways personnel can focus completely on career counseling. The person in this full-time position is also able to involve the teachers more by providing career information for their classes.

• ***Let people know they are part of a unique effort.*** As educators we tend to believe that it is not necessary to remind people about the good things we are doing at school. Make sure that you don't fall into the trap of letting people assume that the great things happening at your school are part of the everyday activities. You must remind them that the school-to-work system is unique and should be representative of their community. Remind parents, business and staff that this is only happening because you are actively working at improving the education system for their children. Keep telling them it is a great program. Let your students know that what you're doing is special and that they are getting training and skills that are impossible to get any place else—that their education is tailor-made by their community for each individual student.

• ***Make sure that your parents and community buy into your changes before they take place.*** Many of the changes you will be making may make radical differences in your education system. Decide as a community what kind of student you want to graduate from your district and then allow the community to help you sell the program. You'll save yourself many delays and frustrations along the way.

Future Goals

After just two years of implementing our school-to-work system in our district, we are beginning to see a difference in what students know about the world beyond high school. They are learning first hand the realities of jobs that interest them—about the money and years of training needed to set up one's own medical practice or the trickiness of dealing with customers and employees.

By no means is our task finished. In a recent outside evaluation, members of our district school-to-work site council were asked to assess the progress of the project. Without hesitation the committee responded that they were just beginning. The more projects we work with, the more possibilities we see.

We have many dreams, including several specific to integrating work-based and school-based learning. Staff need to be able to visit businesses for extended periods of time to find out what businesses actually do and what skills are needed and to develop connections with the business community. In-service training must continue for staff, businesspeople, community members, parents and students. We want to have training in the integration of academic and work-based learning skills, student assessment, workplace readiness, student guidance, cooperative learning, student performance levels, developing community-based plans, preparation for postsecondary training, mastery and performance-based learning and dealing with at-risk students.

Our plans are ambitious for a small community. But we have discovered if we are enthusiastic and are working toward common goals we can achieve those goals. We have found through the development of our school-to-work project that the community and parents are our strongest allies. Through working with them, we have been able in just a few years to provide opportunities for our students that would've been impossible if we'd tried to do it ourselves.

Kathy Proctor works as vocational director, school-to-work coordinator and business education instructor for the Grand Coulee Dam School District. She is responsible for writing grants and giving workshop presentations addressing school-to-work issues.

SECTION V

Keeping Your STW Program Going

Chapter 28: Marketing Your School-to-Work System
Chapter 29: Helping Students Move On From School-to-Work Programs
Chapter 30: Evaluating Your School-to-Work System
Chapter 31: Getting Continuing Funding for Your System

CHAPTER 28

Marketing Your School-To-Work System

by Patty Williamson

Any good educational venture should ideally attract the cooperation and support of people other than teachers and students. But the very nature of a school-to-work system requires the hands-on involvement of educators at all levels, business and industry leaders, local and state government officials, parents and students. To paraphrase the old African adage about raising a child, "It takes the whole village to make a school-to-work system."

So, here you are with what you know is the best (maybe even the last) chance to save public education in America. It will benefit all students, not only those who are at risk. It will strengthen the local economy and, ultimately, that of the entire country. It will bring renewed enthusiasm and hope to tired teachers. And it promises parents that their nests may someday be empty!

The Rules of Marketing

The first rule of marketing is that you must have a good product to sell. School-to-work is better than good. The second rule is that there must be something about the product that appeals to everyone in your target audiences—the "what's-in-it-for-me" approach. Again, no problem. School-to-work is truly a win-win scenario for everyone. The third rule is that there must be no apparent down-side—no drawbacks or consequences for those who "buy" the product. And here you face the first hurdle.

Many educators will perceive school-to-work as just the latest name for vocational-technical ed, which they may see as a "second-class" option for kids who can't succeed in the "preferable" college-bound track. Parents may see such programs as mutually exclusive, with college the only acceptable choice for their children.

Employers, tired of token recognition on advisory committees and burned once too often by vocational program graduates short on basic academic skills (or "regular" grads with no job skills), may be reluctant to become involved.

All of them are mistaken about what school-to-work has to offer. But the final rule of marketing is that we must accept people's perceptions as being the truth for them at the moment. The opinions they already have—of you, of your school, of the programs offered there and of the quality of your graduates—are the foundation on which you will build your marketing campaign. You also need to know their expectations and dreams for the future, so that you can most effectively tailor your messages for each audience.

Ask Questions First

Research, then, is where marketing begins. Do not assume you have all the answers until you know what the questions are. The time and money you invest in finding out what people think and what they want will prevent costly mistakes in your marketing campaign and can mean the difference between a strong school-to-work system and one that never gets off the ground.

As soon as plans for your school-to-work system begin to take shape, form a marketing committee that includes representatives of all your target audiences as well as public relations and marketing professionals. This committee will be involved in planning and possibly in conducting some phases of your market research.

If you can afford it, consider hiring a professional (ideally a marketing researcher who's familiar with public education) to conduct your research, or at least help you formulate questions and decide what methods you will use to obtain input. If you don't have money to hire a professional, see if there are community residents with expertise in the field who will volunteer to help.

You may use focus groups, telephone surveys, in-person interviews or mail-back questionnaires to get information from representatives of each of the audiences to whom you'll be marketing your school-to-work program. These audiences will include:

- K-12 educators
- Vocational-technical educators
- Postsecondary educators
- Business, industry and labor leaders (the latter may be a separate category)
- State legislators and local government officials
- Parents
- Students

From your research, you'll want to find out:

- What expectations do each of the target audiences have of education?
- How do they rate the current education system and its preparation of graduates for life after high school?
- Who influences students' selection of courses and their career decisions?
- How do educators, employers, parents and students react to a description of your school-to-work system?
- Which benefit messages and slogans are most appealing to each audience?
- What problems and concerns do respondents foresee in marketing school-to-work and what suggestions do they have for overcoming them?
- What ideas do they have for building community support and participation in the school-to-work system?
- Where do people in each audience get their information about education? Radio? TV? Newspapers? School publications? School employees? Students? Friends?
- Whom do respondents trust most to give reliable information about your school programs?

Obviously, the planning and development of your school-to-work system will be well under way before you begin your marketing research. To get people's reactions to an approach to education that will be new to many of them, you will need to be able to describe it in some detail. You will also need some visual aids—such as a generic video or brochure—to help them understand what school-to-work is and what it can do for students and the community. But don't put a lot of money into materials at this point. The data your research provides will determine the messages, materials and activities that will be most effective in marketing your program. Save most of your budget for developing these materials.

Our Research in Oklahoma

I was the principal writer of a five-year marketing plan created in 1994 for the statewide school-to-work system in Oklahoma. Not a word about marketing went onto paper until the results of many weeks of research (a series of 13 focus groups and 500 phone interviews) had been compiled and analyzed.

The focus group interviews, each lasting about 90 minutes, provided input from: eighth-grade students, tenth graders, two counselor groups, two parent groups, business and industry leaders, community leaders, elementary, middle-school and high school teachers, school board members and public school administrators. The groups were as representative of the state as possible in terms of race, gender, rural/urban locations and socioeconomic conditions.

Each group discussion explored:

- What participants expect of today's education program and what they think others expect;
- How parents and students make career and course decisions, factors that influence those decisions, the role and performance of school staff in aiding decisions and motivations for selecting one career path over another;
- Participants' reactions to a videotape and brochure describing school-to-work and their concerns and suggestions for the system;
- Ideas on how to build support for and participation in the school-to-work system.

Focus group participants also completed two short questionnaires that helped researchers begin to identify positive phrases and messages that might be effective in a marketing campaign.

Focus groups are a fast, inexpensive method of collecting both facts and perceptions. The face-to-face setting allows the interviewer to observe body language, facial expressions and tone of voice. The depth of participants' convictions is much more obvious through this research method than through phone or mail surveys. Interaction with other group members also brings out details that might not be revealed in interviews.

Information gleaned in the focus groups was used to design and conduct a 16-minute telephone survey of parents with children presently in school. The phone survey was then administered to 100 households in each of five regions in the state. Trained interviewers asked each parent 36 questions. Phone interviews are time-consuming and expensive, but if done well they are invaluable for fine-tuning information. Carefully chosen participants can provide statistically valid responses for a broad population.

Your Marketing Plan

Once research results are available, you should sit down with your marketing committee to study what respondents have told you and use this information to develop a marketing plan. Your plan should include these components for each target audience:

- ★ A summary of their current opinions, dreams and concerns regarding education
- ★ A list of the most effective messages in getting them to accept and be a part of the school-to-work system
- ★ Activities to market school-to-work to this particular audience
- ★ Persons (either individuals or "positions") who are the most influential in getting group members to accept new ideas
- ★ Long-term objectives of your marketing efforts with this group (these should be specific, measurable and reasonable)
- ★ A proposed budget to carry out your marketing plan
- ★ An evaluation component

While the data from your community will be unique, it will probably resemble in many ways the responses other states and school districts have obtained through their research. The pages that follow contain background information, sample messages and suggested marketing activities for eight different audiences taken from the five-year marketing plan I helped created for the state-wide school-to-work system in Oklahoma. This information is shared with permission from the Oklahoma Department of Vocational-Technical Education.

Use this material as a guide, expanding and shaping it to meet your local needs. List every message and activity that you think might be useful with each audience and then select the best ones for implementation. The more complete your plan, the more effective your marketing campaign will be. The Oklahoma plan includes an average of 12 messages and 31 activities for each audience.

Marketing Information: K-12 Educators

Background and Research

A successful school-to-work system requires communication and cooperation between groups of educators who probably have not talked much in the past—elementary and secondary educators, secondary and postsecondary, vocational and academic. In addition, school personnel will have to work closely with the business community and accept businesspeople as full partners, not just "window dressing," in the education process.

Educators can be very possessive of their turf and may even feel that their subject area, grade level or building is superior to others. It will not be easy to convince some academic personnel that school-to-work is a program for all educators and students, not simply a scheme to increase voc-ed enrollment.

Veteran teachers have seen so many innovative programs come and go that they may dismiss school-to-work as just another fad that will be replaced with something else in a year or two. Or, if they do recognize its potential, they may remember other good ideas that failed because the state or the local board of education failed to provide adequate funding. They may also look at school-to-work as just one more responsibility to add to their already heavy schedules.

Finally—and this will be a major obstacle to overcome—most educators truly believe that a baccalaureate degree is the most desirable goal for every student with the ability to obtain it and that suggesting any other option is condemning him or her to "second-best." Until they understand school-to-work, they will view it as a non-college program. In addition, far too many educators fail to see a connection between the K-12 years and the world of work. In their eyes, it is the job of someone else—employer or postsecondary instructor—to prepare high school graduates to earn a living.

Major Influencers

The major influencers for K-12 educators are respected peers who have experienced success with school-to-work systems. These educators are also impressed by a cooperative effort among all divisions of education, by the visible support and involvement of government and business leaders and by what employers say about the skills workers need.

Sample Marketing Activities

- ✔ Give teachers and counselors opportunities to visit worksites and see the kinds of skills and knowledge required on the job.
- ✔ Bring in some bright young people who graduated from high school five to ten years ago and have them talk to faculty about what they've done since graduation and how school-to-work would have helped them go further, faster.
- ✔ Print colorful posters saying, "Did you know you can get college credit for this course?" and hang them in every appropriate classroom. It's a boost to the morale of high school teachers to be teaching a college-level course!
- ✔ Provide teachers and counselors with follow-up data on graduates from the past five or ten years. They will be amazed to see how few of those who declared themselves to be college-bound ever enrolled in college—or graduated.
- ✔ Invite a speaker who's knowledgeable about long-range employment trends to explain why a general-track high school diploma is not adequate to obtain most good jobs.

Sample Benefit Messages

- ★ School-to-work is for all students, including those planning to pursue a four-year college degree.
- ★ The school-to-work curriculum is just as rigorous as the traditional college-prep curriculum and may even let students start earning college credit in high school.

- ★ The applied academics and worksite experience that are part of school-to-work help students see the relevance of education. Grades improve. Attendance improves. Students are better focused and try harder. Teaching will be easier and more exciting.
- ★ The people who will be hiring workers for the 21st century are helping design and implement the program. You'll get to see first-hand how what you teach relates to the work students do after graduation.

Sample Objectives

Within five years:

- ★ At least 75 percent of K-12 educators will speak highly of the school-to-work program.
- ★ At least 50 percent of eligible K-12 educators will be participating in some phase of school-to-work.

Marketing Information: Postsecondary Educators

Background and Research

Many postsecondary educators may dismiss school-to-work as just another vo-tech program for students who are not going to college. Although they may see that it provides better preparation for the workforce, they will probably not understand at first that it also ensures a stronger academic foundation for college and encourages students to aim for a two-year degree.

Major Influencers

The major influencers for postsecondary teachers are peers who have had positive experiences with students who have gone through a school-to-work system. They may also be influenced by business and industry executives and legislators who see school-to-work as a better way to not only prepare students for successful employment, but also to broaden the state's economic base.

Sample Benefit Messages

- ★ You can look forward to students who are better prepared and ready to learn advanced skills and concepts. Less review and remediation will be needed and students can master more advanced material.
- ★ Students will be more attentive and interested because they have participated in worksite learning programs that help them see the relevance of what they're learning.
- ★ Parents strongly value higher education, but many lack the financial resources to pay the entire cost. Skills learned through school-to-work can help students pay for college.

Sample Marketing Activities

- ✔ In every group and personal contact, stress that school-to-work enhances the image and status of two-year postsecondary programs. Keep making the point that fewer than 25 percent of all high school graduates ever complete a baccalaureate degree.
- ✔ Make sure that postsecondary representatives are actively involved in school-to-work committees. People tend to support things they help create.
- ✔ Invite postsecondary teachers to make presentations to high school vocational classes about advanced education opportunities. This is especially important for classes whose curriculum is articulated with college courses.

Sample Objectives

Within five years:

- ★ At least 75 percent of educators in community and technical colleges will speak highly of the school-to-work system.
- ★ At least 30 percent of educators in community and technical colleges will be involved in school-to-work activities.

Marketing Information: Vocational Educators

Background and Research

Initially, vocational teachers may not see much difference between school-to-work and what they have been doing for years and they are likely to doubt that school-to-work will be accepted by other educators. But, next to students, vocational educators have the most to gain from a school-to-work system. As new partnerships are created between academic/vocational and secondary/postsecondary colleagues, a new appreciation for the work of the vocational teacher and more mutual respect, will develop.

Major Influencers

The major influencers for vocational educators are business support, the support and motivation of their peers in vocational education and acceptance by colleagues in K-12 education. Additional funding for training, materials and salaries is also an influencer for this group.

Sample Benefit Messages

★ School-to-work will create a new image for you, your students and your programs.

★ Even though you've been giving students the technical preparation needed for entry-level employment or continued training after high school, employers are now demanding more of entry-level workers—including strong academic skills in math, science and communications and workplace skills like problem solving and teamwork.

★ School-to-work will require many academic teachers and counselors to make changes in their thinking about the goals of education. But as teachers who have long understood that work readiness is a goal of education, you will be in a unique position to act as a leader.

Sample Marketing Activities

✔ Provide opportunities for vocational teachers to develop programs with academic and postsecondary colleagues and with business, industry and labor representatives.

✔ Get statistics from other parts of the country where school-to-work systems are already in operation. Compare their data on dropout rates, grade point averages, standardized test scores, percentage of students in higher-level classes and percentage of graduates completing at least two years of college with similar figures from your own district. Provide to staff printed copies of data that reflects favorably on school-to-work.

✔ In every group and personal contact with educators, stress that school-to-work is not a "second-best" option. Emphasize that fewer than 25 percent of all high school graduates ever complete a four-year degree and that 65 percent of the jobs in the year 2000 will require technical skills.

Sample Objectives

Within five years:

★ At least 90 percent of vocational educators will speak highly of the school-to-work system.

★ At least 75 percent of vocational educators will be involved in planning and implementing school-to-work activities with business, industry and secondary and postsecondary teachers.

★ Vocational educators will collaborate with academic teachers throughout the district to support and implement school-to-work.

Marketing Information: Business and Industry

Background and Research

Business and industry leaders are strong supporters of school-to-work because it will provide a better-trained workforce, make operations more efficient and reduce on-the-job training needs.

Once they are convinced of educators' sincerity in welcoming the business community as full partners in a school-to-work system, they will be its most credible and effective spokespersons. Their interest in hiring school-to-work graduates will be very persuasive in convincing teachers, parents and students that this is the pathway to a successful future. Their lobbying efforts can convince legislators that school-to-work is a valid solution to the shortage of well-trained workers in various technical fields and that the system has broad support outside the education community.

Because business and industry play such a pivotal role in the success of school-to-work systems, you need to do everything possible to cultivate their understanding and commitment.

Major Influencers

The major influencer for business and industry is net profit. Peer groups—chambers of commerce, professional associations and trade organizations—are also very influential.

Sample Benefit Messages

★ School-to-work is for all students; it is widely supported; it is going to be around for a long time and it works.

★ Onsite involvement with students will give you a chance to train and evaluate potential employees in work settings prior to hiring. It will expand the pool of qualified applicants and reduce employee turnover.

★ School-to-work graduates understand that learning is a lifelong activity and they are prepared to meet changing expectations.

★ Many teachers and counselors have never worked outside a school setting. By showing them first-hand what skills the workplace requires, you can help them prepare students to be more effective employees.

Sample Marketing Activities

✔ Prepare an information packet keyed to the interests of business and industry—better-trained workers, higher profits and more opportunity to compete in the international marketplace.

✔ Appeal to their sense of civic duty by pointing out that participants in school-to-work systems will be helping to overhaul an education system that is no longer providing what most students need to be successful.

✔ Host a breakfast, dinner or reception to introduce school-to-work to business and industry representatives. After a presentation, allow time for questions and distribute packets and cards to request more information or sign up to become involved.

✔ Arrange to be on the program of every civic, service and professional organization where business and industry leaders meet.

✔ Give certain teachers and counselors released time to interview business leaders. They can collect valuable information about the kind of workers companies need, and the one-on-one communication will improve business leaders' attitude toward education.

Sample Objectives

Within five years:

★ At least 75 percent of business and industry leaders will speak highly of the school-to-work system.

★ At least 50 percent of the types of businesses identified as appropriate for participating in the system will be participating in the program will be involved.

Marketing Information: Labor

Background/Research

Labor leaders may be skeptical of the effectiveness of school-to-work. They may also be fearful that if it does work well, young trainees will replace them in their jobs. Educators need to convince them that school-to-work systems benefit everyone, since labor unions have tremendous influence with employees, workers and legislators.

Major Influencers

Union members are most strongly influenced by their peers and by union leaders at the local, state and federal levels. Another influencer is how an issue will affect the local economy and their own job security.

Sample Benefit Messages

★ Better trained workers mean a more profitable, efficient operation for everyone.
★ School-to-work will ensure your own children a more productive, satisfying career.
★ You can help develop a program that will benefit the entire community and give educators more respect for the work you do.

Sample Marketing Activities

✔ Explain school-to-work to local unions and joint apprenticeship training committees and convince them it is not a threat to their job security.
✔ Invite union leaders to serve on curriculum and policy committees and visit classrooms to talk with students about job opportunities in their field.
✔ Invite unions to participate in career fairs, career days and assemblies, describing the kind of work their members do and the role unions play in community activities.
✔ Ask unions to help organize a day when students are invited to go to work with a parent to see what the real world is like.

Sample Objectives

Within five years:

★ At least 75 percent of labor leaders will officially support and participate in the school-to-work system.
★ At least 10 percent of labor union members will participate in the school-to-work worksite learning components by providing training or serving as mentors.

Marketing Information: Legislators

Background and Research

Educators depend on legislators to ensure long-term financing of school-to-work systems, to enact laws to regulate the system and to influence articulation, board appointments and the support of school-to-work by other agencies—in short, to determine the priority placed on school-to-work throughout the state. If legislators are not convinced of a school-to-work system's value, the system is likely to fail.

Like most Americans, most legislators have grown up believing that a four-year degree is the surest, if not the only, ticket to success. They must be convinced otherwise if school-to-work is to receive the funding it needs.

For years, legislators have refereed in-fighting and turf battles among various levels of education. It will not be easy to persuade them that, at least with school-to-work, the entire education community along with business/industry and labor are united in a common pursuit. They have seen many new education programs come and go and it will take a lot of data and success stories to convince them that school-to-work is here to stay.

Letters and phone calls won't do the job. Legislators require frequent personal contacts and concrete data showing that school-to-work is an effective way to prepare the future workforce.

Major Influencers

Major influencers for legislators are heads of key committees, business and consumer groups that represent a large number of voters, key business leaders, political leaders, family members, lobbyists, contributors and the media.

Sample Benefit Messages

★ School-to-work is good for students, business and the economy. It will attract more business and industry to the state.

★ School-to-work will reduce social service costs in the future. It will build a motivated workforce that earns higher wages, thus increasing the state's tax base and reducing welfare and prison costs.

★ Legislators who support school-to-work will gain the votes of constituents who want their sons and daughters to have the best preparation possible for becoming capable, independent adults.

Sample Objectives

Within five years:

★ At least 80 percent of state legislators and other government officials will have voted in ways that support school-to-work.

★ At least 80 percent will endorse school-to-work as an education system that should receive more support from all funding sources.

Sample Marketing Activities

✔ Make personal contact with each legislator to give a brief explanation of school-to-work and urge his or her support. Leave an information packet. Talk to key aides, too; they can be very influential.

✔ Take legislators on a tour of schools and businesses where successful school-to-work programs are under way.

✔ Use business/industry leaders who have some clout to explain to legislators why the method of preparing students for careers must be changed.

Marketing Information: Parents

Background and Research

Parents may be the most difficult audience to sell on school-to-work because they are so sure that a four-year degree is the only choice that will guarantee their child a better education, a better job, a better life than they've had. Their goal is the best opportunity for every child. It won't be easy to convince them that, rather than being a second-best alternative, school-to-work will be the direct path to most of the good careers in the 21st century.

The fact that school-to-work is a program that can prepare students for college, among other options, scores high with parents, as does the individualized approach featuring a long-term education and career plan for each student.

Parents who understand that school-to-work will open up a world of opportunities for their children are the best salespersons for the system.

Major Influencers

Major influencers for parents are other parents, employers who say that school-to-work is excellent preparation for success in the workplace, college professors, teachers, the media and, of course, their children.

Sample Benefit Messages

★ School-to-work is for all students. The curriculum is as rigorous as college prep and may even give students the opportunity to earn college credit in high school.

★ In a school-to-work system, your child will have an individualized long-term education and career plan, which you can help design.

★ School-to-work prepares students for postsecondary options. The program lays a solid foundation for a two- or four-year degree. But if a student decides to go to work full time right after high school, he or she will be better prepared for that, too.

★ Skills learned through a school-to-work program can help pay for college.

★ Participating in a school-to-work system will help your son or daughter become a productive, independent adult.

Sample Marketing Activities

✔ Use business/industry partners and parents who are enthusiastic about school-to-work as speakers at school gatherings. Parents will be especially impressed to hear employers who may one day hire their children say that school-to-work is the career training system of the future.

✔ Hold a school-to-work fair in the school gym with business or labor representatives from each of the work areas in your program. Have enthusiastic teachers describe how their applied academic programs relate to the world of work. Postsecondary instructors can explain how high school classes are articulated with their programs.

✔ Include ads for your school-to-work program on sports schedules, programs, school calendars and other materials parents see.

✔ Develop a video to use in presentations to students and parents. (Parents are more interested than their children in specifics about curriculum and outcomes.) Make copies available in schools, libraries and video rental stores to check out at no cost.

✔ Ask the utility companies to include a stuffer in their monthly bills.

Sample Objectives

Within five years:

★ At least 60 percent of parents will speak highly of the school-to-work system.

★ At least 20 percent of these parents will agree to give testimonials for school-to-work.

Marketing Information: Students

Background and Research

Most students don't pay much attention to their career options until it's too late and many never recognize the connection between their K-12 years and a successful career. The majority still believe that tech school leads to blue-collar jobs. The overriding interest for most teenagers is to be with their friends and have fun—strong selling points for school-to-work. As early participants discover that the program is interesting and exciting, they will "sell" it to other students.

Major Influencers

Major influencers for students include their peers and teachers. Parents and other close relatives play a big role in students' choice of school courses and a career. School counselors have less influence than one would expect.

Sample Benefit Messages

- ★ With school-to-work, you can start preparing for a well-paying, respected career while still in high school. You'll have a long-range goal and know exactly what you need to do to reach it. While other kids are wondering what they'll do after high school, you'll know.
- ★ Math and science courses in the school-to-work curriculum are taught with an "applied" approach that challenges you to use your hands as well as your head. The subject matter will be just as difficult as in college-prep courses, but you'll find it's easier to understand because of the practical applications.
- ★ School-to-work is a college-bound system. When you graduate from high school, you'll be two-thirds of the way to an associate's degree and you may already have earned some college credit.

Sample Marketing Activities

- ✔ Take students to visit the postsecondary schools where they can continue the school-to-work curriculum begun in high school. Make sure that at least part of the tour is spent with guides who are close to their age. Include some exposure to extracurricular activities.
- ✔ Develop an advertising campaign targeted at students—including posters, brochures, TV and radio ads and a video. Include students or recent grads as spokespersons, along with employers. A particularly effective approach is to have students say school-to-work is the quickest pathway to a job their friends and family will respect and a life-style their peers will envy.
- ✔ Issue a "credit card" to every school-to-work student whose semester grades and attendance meet pre-established standards. The card can be used for free or reduced-price items at participating community businesses. Present the cards at a special assembly at the end of each semester.

Sample Objectives

Within five years:

- ★ At least 80 percent of all secondary students will speak highly of the school-to-work system.
- ★ At least 40 percent of all eligible students will participate in the school-to-work system.

Develop a Theme

A single theme used in every reference to your school-to-work program will help to create a strong, positive identity in the mind of the public. Before you begin your market research, the marketing committee should brainstorm and choose several of the best themes to try out on the focus groups and individuals who are part of the research process.

Results from the focus groups and state-wide telephone survey of parents in Oklahoma indicated that people were receptive to the concept of school-to-work—they just didn't like the name. For many of them, the word "work" was tied to blue-collar, low-wage, low-skilled labor. The word "career," on the other hand, connoted a high-wage, high-skilled, high-status image. Words that seemed to limit the program to vocational education had a negative impact.

Respondents said the overall marketing theme should emphasize what school-to-work will eventually do for students, rather than the process that will take them to their goal. This is a plus for the marketing effort. Since your school-to-work system will likely still be under development when you begin to "sell" it, it will be easier to focus on student outcomes than on program specifics.

Synthesizing what research results told them about word choice and the most effective focus for their marketing campaign, Oklahoma chose as its school-to-work theme "The Career Connection: From Learning to Earning."

Materials and Media

As you begin your campaign to "sell" school-to-work, you'll need a video (possibly a generic one based on the program concept) and an all-purpose brochure. When you begin a more intensive campaign, you'll want a video that depicts your own program and brochures that appeal to the particular interests and concerns of each target audience. These, like everything else you produce, should be professional in content and appearance. People will judge your program by the quality of materials that represent it.

As you broaden the scope of your marketing, you'll probably want a brochure to advertise each articulated program. A monthly or quarterly newsletter will keep staff members and business partners up-to-date on program developments and successes. A newsletter targeted to students and parents and mailed to their homes is an excellent way to keep them informed. A school-to-work page in the regular district newsletter may accomplish the same thing at less expense.

Posters attract students' attention, as do such things as T-shirts, notebooks, key chains and pencils. Some marketers feel such items are an unnecessary expense and that they may even cheapen the image of the program, but kids love them and they keep your theme in the public eye. If you decide to use items like these, don't forget staff members, who usually appreciate tote bags, mugs, notepads, pens and calendars.

A large sign near the school entrance and smaller ones on the doors of school-to-work classrooms and the windows of business partners are good advertisements for your program. Theater screen ads are inexpensive (often free to non-profit organizations) and easy to prepare. Look into advertisements on billboards, grocery bags or placemats at fast-food restaurants.

Get print and electronic reporters excited about the school-to-work concept and encourage them to do a series of stories on what it is and how it benefits students and the economy. Don't forget the free weekly "throw-away" newspapers found in many suburban communities. They're often read more thoroughly than the dailies.

The printed word will reach many adults, but most teenagers rely on TV and radio. Unless you have a very large budget, it will be difficult to pay for ad production and air time, but you may have some luck placing public service announcements. You may also have a public-spirited station that's willing to help you produce a video or TV and radio ads. (Investigate public-access cable channels, too.)

Videos are one of the best ways to reach students and once you have the original, it's inexpensive to make multiple copies they can check out from school, the library and video rental stores. Here, again, quality is very important. Kids see too many good videos to be impressed by one that looks amateurish.

Finally, remember that as necessary and effective as all these techniques may be, word of mouth is still the method of communication that moves most people to action. Experts tell us that what we learn from newspapers, radio and TV usually serves to reinforce opinions we already have, rather than create new beliefs or change old ones. Personal experiences and contacts are what counts.

Budget

List all your marketing ideas, prioritize them, get cost estimates and see how far your dollars will stretch. Be creative about accomplishing what your budget won't cover. See what resources are available from your business partners. Some may be willing to foot the entire bill or to share the cost of items, or they may agree to host activities, providing space, refreshments and giveaways. Look into the availability of mini-grants to pay for specific marketing items or activities. Ask your marketing committee for names of people who might provide professional services on a volunteer basis.

There are so many variables in developing a budget that it's impossible to generalize, but a format like the one below will help you analyze your time and funding requirements and decide how much of each you can expend on any segment of your marketing campaign. (Of course, you should have a detailed, written plan for each item on the timeline.)

Evaluating Your Marketing Campaign

Evaluation is usually the most neglected part of a marketing plan. If things are going well, it's tempting to rest on our laurels. And if there are obvious problems, it takes courage to ask people what went wrong.

Probably the reason many of us avoid the evaluation process is that it can be difficult to pin down answers. But if you base the evaluation of your marketing plan on the achievement of specific, concrete objectives, some figures are relatively easy to obtain:

- What percent of the general public say they are aware of the school-to-work system?
- What percent of each target audience speak highly of school-to-work? What percent are participating in some phase of the program?
- What percent of legislators have endorsed or voted in support of school-to-work measures?
- How many students are enrolled in school-to-work programs?
- How many students speak positively about the role school-to-work has played in their education/career choice?
- How do postsecondary educators rate the quality of high school graduates of the school-to-work system?

Sample Timeline and Budget For School-to-Work Projects

Activity/ Publication	Start Date	End Date	Projected Cost	Person/Dept. Responsible
General Information Brochure	June 1	July 15	$150/1,000	PR Director
Breakfast for Business Leaders	July 1	Sept. 1	$1,500	Breakfast Committee

- How do employers rate the quality of school-to-work completers?

When the public is exposed to a number of activities and materials at the same time, it's often hard to determine which item most influenced their opinions and actions. Yet you need to find out which strategies were most effective to make the best use of your marketing budget. One way is to ask people in informal conversations, focus groups and telephone or mail surveys what impressed them most favorably. Or if, as should be the case, each activity or publication had specific objectives in terms of target audience and the response you hoped to obtain, you may evaluate each activity with such questions as:

- Was the target audience reached? Whom did you miss and why?
- Did the audience respond as you had hoped? (Did they attend the event, enroll in the program, call for information, etc.?)
- What did the audience say you could do more effectively next time?
- Was media coverage (if appropriate) positive and adequate?

Don't feel you have to wait until an activity is completed before you evaluate its success. Periodic "how-are-we-doing" checkups allow you to assess progress as you go along and make any necessary changes in direction.

At least twice a year, sit down with your marketing committee to review what you're doing, decide what's worth continuing and what should be dropped and consider new marketing ideas.

The Last Word

I hope this chapter has given you the tools you need to begin marketing your system—identifying your key audiences and creating methods for reaching each of them effectively. You have a fine product to "sell" and the tools to market it successfully. Now go tell people what they need to hear.

Dr. Patty Williamson spent 27 years in school public relations and administration, retiring in 1993 to form her own writing and public relations business. She is the author of Tech Prep Marketing Guide *published by AVA in 1993 and was the principal writer of Oklahoma's state-wide school-to-work marketing plan. She has taught graduate classes in public relations and communications and has received more than 25 awards for outstanding publications and marketing activities for vocational-technical education programs.*

CHAPTER 29

Helping Students Move on From School-to-Work Programs

By Jim Steward
Autry Technology Center
Enid, Oklahoma

One of the many ingredients in the recipe for a successful school-to-work system is helping students make a smooth transition from the system to a good job or further schooling. If a main goal of school-to-work systems is, as stated in the 1994 School to Work Opportunities Act, "to ensure students a seamless transition from secondary education to meaningful high quality employment and or further education," this is one of the key ingredients.

In Oklahoma, a state that has created a statewide school-to-work system, the Oklahoma Department of Vocational and Technical Education has developed a set of strategies to ensure that our students make an effective transition from school-to-work programs into the world of work or schooling. We call these strategies quality indicators and encourage each of our area vocational-technical schools (AVTS) to strive to meet them in their transition activities for students. (We have also developed quality indicators in the areas of student guidance, assessment, basic skills and education enhancement, financial aid administration, curriculum coordination and staff development.) The quality indicators were developed by an advisory committee of education, business and community leaders set up for this purpose and are used to evaluate the quality of each area school. (See the box on the next page for a list of Oklahoma's quality indicators.)

In this chapter, I will describe how we implement these quality indicators—or strategies for success—in placing students in jobs or further education after they have completed a school-to-work program. Although these quality indicators have been developed for Oklahoma, they should apply to transitioning efforts in many states.

Who Provides Transition Services?

As in many states, school-to-work programs in Oklahoma have traditionally used the vocational teacher as the primary provider of job development/placement information and transition assistance to the student. A teacher typically uses his or her program advisory committee members and their contacts with business and industry representatives within the community to identify employment opportunities for their students completing a program.

Often, because of the teachers' commitment to provide quality vocational-technical instruction to all students, job development/placement activities get "shortchanged." Many times the teacher has time to assist the top students with their job or schooling placement, but the average or marginal students may be left to find their own way after leaving a school-to-work program.

The vocational counselor also often takes on responsibility for the job development/placement process. Counselors work closely with the school's counseling or assessment center to determine a

Quality Indicators for Effective Student Transition

Developed by Oklahoma's Department of Vocational and Technical Education

- ★ All students in accredited AVTS programs receive assistance in developing employability and job search skills prior to program completion.
- ★ The AVTS informs all students about the availability of job placement services prior to completion of their programs.
- ★ Job placement records are maintained and used to plan and redesign course offerings and AVTS services.
- ★ The AVTS creates and maintains a list of job openings that is accessible to all AVTS staff and instructors involved in student job search and referral.
- ★ The AVTS maintains regular contact with business and industry to develop and facilitate employment of completers.
- ★ The AVTS matches eligible students with employers who have identified their needs.
- ★ Vo-tech students receive assistance to support and refine job search strategies and skills for six months after program completion.
- ★ The AVTS provides all students with information about employment laws that protect them from discrimination based on race, religion, color, ethnicity, national origin, gender, age or disability.
- ★ The AVTS provides all students with information defining sexual harassment and the laws that protect them from such harassment.
- ★ The AVTS requests assurances from employers that students utilizing AVTS Job Placement Services will not be discriminated against in employment, work assignments or promotion based on race, religion, color, ethnicity, national origin, gender, age or disability.
- ★ The AVTS helps each student in accredited programs develop a portfolio related to the student's objectives.
- ★ The AVTS shall provide organized and systematic guidance and placement services for those students seeking further education and/or job placement.

student's interest, aptitude and academic skills for successful placement. However, job placement activities are sometimes curtailed because of the sheer numbers of secondary students per vocational counselor or because of other duties the counselor has been assigned, such as handling disciplinary and attendance problems or Individual Education Plan meetings.

Some schools in Oklahoma, particularly in cities, have hired a job placement coordinator to assist teachers, vocational counselors and students in their school with transitioning activities. The coordinator helps plan job readiness activities; coordinates job shadowing, apprenticeship and other work-based learning activities; develops contacts with business and industry for job placement; contacts employment services for job placement; helps teachers plan job readiness and job placement activities; and helps plan follow-up activities.

A job placement coordinator who takes on the responsibilities for transitioning activities is still a luxury in most schools in Oklahoma and probably in other states. But we recommend, if possible, designating a person in your school to take on this responsibility at least part time.

Several of our job placement coordinators in Oklahoma vo-tech schools are active in the National Association of Job Search Trainers (NAJST), a professional association for job search coordinators, including employment counselors, employment agencies and human resources people from large companies. NAJST members share techniques and strategies for job placement and enhance each other's placement skills. We have found working with NAJST very helpful because many of our placement people come into job placement from teaching or administrative positions and need some background on the placement field. In Oklahoma, our job placement coordinators—along with trainers from business and industry, employment services and other sources—are currently developing a statewide placement organization to affiliate with NAJST.

Implementing Our Strategies

Employability and Job Search Skills

Work-based experience should help students develop basic and occupation-specific workplace skills. But many skilled students will need further training to be skilled in seeking and securing a good job.

In Oklahoma, our job placement coordinators provide job readiness workshops for all students. Coordinators also help teachers develop activities for the classroom, such as mock interviews and units on employability skills using videos or software programs. There are also software programs to help students identify their job search goals and strategies. The person responsible for transitioning activities for students in your program should become familiar with such programs.

One of our area schools provides an employability skills laboratory where students may participate at their own pace in developing job readiness skills using interactive software programs. (See chapter appendix for list of suggested resources.)

In Oklahoma, we use Oklahoma Career Search, a software program available from the Oklahoma Department of Vocational and Technical Education, to clarify career options for students. Oklahoma Career Search identifies occupations a student may be interested in based on a set of parameters, such as interests, aptitudes, abilities, desired salary and education needed. Detailed information is provided on each job, including a job description, occupational specialties (D.O.T. code number and a brief description), working conditions, worker requirements, earnings and benefits, employment outlook, related education and training and major sources of information.

It is helpful to have a central location where resources and trained personnel can help students develop job search skills. In our state, every vocational school has a center to help students develop such skills. The center provides student services in assessment, applied academics, basic skills improvement and employability skills development. The center also offers opportunities for individuals to improve their fundamental academic skills as well as employability skills, through remedial software programs and tutoring.

Center staff also work with the vocational teachers to develop group and individual employability skills activities for all students. These skills include: networking, completing job applications, writing a resume, writing employment letters, giving job interviews, improving self-esteem, developing positive attitudes, managing time and handling stress.

Informing Students of Placement Services

It is easy to take for granted that students will know about job placement services available to them. But it is important to direct students to such services. Most of our area vocational-technical schools inform students about the various job placement services through the central job placement bulletin boards and written communications with teachers. Some of the placement services to which we direct students include:

- **The Oklahoma Employment and Security Commission's Employment Services Division.** Every state should have a similar state employment service. Such agencies have offices in most major towns and cities and offer leads for a wide range of job opportunities. One of the disadvantages of this service for some school-to-work participants is that potential employees must be over 18 years of age.
- **Private staffing services.** Many of these services were called temporary services, but most now offer both temporary and permanent employment opportunities, part time or full time. Many of these services provide employees for large compa-

nies who wish to expand their workforce for special projects or contracts. While much of the employment may be for only one to three months, this service provides the student an excellent opportunity to look over the company while the company reviews the employee's performance. Sometimes the jobs lead to full-time permanent employment.

An advantage of staffing services for school-to-work participants is that they may provide an opportunity to explore many types of entry-level jobs before a more permanent job decision has to be made. The service may also offer employment opportunities for students who are under 18 years of age.

- **Larger companies or government entities** with personnel services departments.
- **Local Job Training Partnership Act** councils, which can provide summer jobs for many youth.
- **Job hotline numbers.** Many large companies and government agencies now have a toll free number that potential applicants can call for a list of job openings.

Maintaining Job Placement Records

Effective record-keeping methods are essential to the success of any job placement program—and to long-term success in helping students move on from high school.

Obviously, to help place students in jobs, you will need to keep good records of employer contacts and job opportunities or openings so that you can refer students. You should also keep good follow-up records on students after they have graduated from the program so that you can keep track of how many students secured and held jobs in their chosen field, how many went on to further schooling and how many weren't able to find good jobs in their field. Ideally, you should collect follow-up data on students at three months, six months and a year after they graduate. This information will help you see how well your school-to-work system is preparing students to achieve their goals after graduating.

We have found that record-keeping materials should be as simple as possible. For job placement, student and employer records must be kept up-to-date, accurate and comprehensive.

Some schools design their own forms; others use various commercial sources. One job placement coordinator in Oklahoma uses a program on her office software called "Card File" (which is included with Microsoft Windows) to maintain student and employer files. By using a common word search, such as *welder,* she can match employers who need welders with students who are qualified as welders.

There are certain standard forms you should have on file and use for maintaining information on job possibilities and placing students. The basic set of forms for employer information should include:

- **Introduction letter.** Used each time you learn of a new business, employer or placement agency that needs to be informed about your school-to-work system and what kind of skilled students you graduate each year.
- **Introductory employer survey.** Should be included with the introduction letter and is to be returned by the employer or company indicating what kinds of job opportunities they have available and how they are willing to participate in your school-to-work system and job placement efforts. You should synthesize survey information on file cards (or computer files). Files are usually organized by kinds of services offered by the resources (part-time employment, summer employment, permanent employment, apprenticeship, job shadowing and so on).
- **Job order(s).** Used when a prospective employer calls your office with a job opportunity. Be sure to have space to note who was referred to that job.
- **Thank-you note.** Written and sent to any employer who has informed you of a job opportunity and hired one of your students.

The basic set of student forms should include:

- **Registration card.** Lists student's name, desired job or career plans, skills and interests.

• **Job teaser card.** This card describes a job without identifying the company that has the job available. The card is posted in a central location and the student is forced to come to you the counselor or job placement coordinator for specifics.

• **Notification card.** Used to inform a student that a desired opportunity is available.

• **Referral card.** This card is given to the student to take with them on an interview as an introduction to a prospective employer or agency. The student gives the card to the employer, who uses it to record impressions of the interview and return it to the school's placement office. This card should be postcard size so the employer can easily mail it back, giving you feedback from the referral.

• **Resume.** Prepared by the student, with instruction and guidance, prior to being referred on an employment interview and, of course, taken by the student to the interview.

In addition to the employer and student forms for job placement you should also develop a process for following up on the outcomes of present and former students. Well-planned follow-up can help you evaluate and improve your transition services and help evaluate and improve your overall school-to-work program.

Successful follow-up of former students can take a variety of forms—personal interviews, mail survey, telephone survey or some combination of these approaches. It is generally best to try and reach students during the first year after leaving the school-to-work system.

Some practices that have been found to increase response rates for follow-up surveys include:

- Advise students (and employers if employers are to be surveyed in some way) during the year of the anticipated study.
- Send a pre-survey letter or card prior to the first survey or request for an interview.
- Enclose a stamped—rather than a metered—reply envelope.

The box at right lists some of the main information you should try to get from students in a follow-up survey.

Maintaining a List of Job Openings

As with placement services, it is easy to assume all students will know where to look for current job openings in their field. But providing a central list of such openings is an essential service to provide for students preparing to leave school-to-work programs.

Try to post all available opportunities together in a place most students frequent. Autry Tech maintains a "job opportunities" bulletin board in the main foyer of the school building. Announcements from the City of Enid, Oklahoma Employment Service, State of Oklahoma Personnel Services Division, employers and classified ads pertinent to programs offered by Autry Tech are placed on the bulletin board. At the beginning of each week, an Autry Tech staff person posts the

Information to Be Obtained in Student Follow-Up

• **Present employment status:** It is essential to know what percentage of graduates entered the labor force in the occupation (or a spinoff occupation) for which they trained, continued their education, entered the military or engaged in other career options, desirable or undesirable. It is important to determine whether or not the reported status is consistent with a student's career plans.

• **Satisfaction with current status:** Analysis of responses can help you evaluate whether your placement and transition services are based on students' needs rather than needs of the placement program or referral agency.

• **Whether students used a formal placement service:** Ask students what was their most useful referral source in gaining their present position. Feedback may help you improve your efforts to refer students placement opportunities or employers.

• **Other beneficial data,** including: salary information on occupations, entry-level job titles and duties, factors contributing to successful placement difficulties in job adjustment.

current Oklahoma Employment Weekly (a mail service provided by an Oklahoma City staffing service) listing employment opportunities in the metropolitan Oklahoma City area (approximately 80 miles from Enid).

Working With Business and Industry

To help students move from school-to-work systems to solid jobs, it is not enough to simply have good relationships with local employers. You will need to help teachers, counselors and others who work with students learn to use these business contacts in such a way that they pave the way to good job opportunities for your students after graduation.

In Oklahoma, our job placement coordinators work with teachers to enhance their skills in creating job opportunities through employer contacts. For example:

• We provide a telephone techniques workshop to help some teachers overcome their fear of the "900-pound telephone." Although teachers may be very competent in their technical content area and in their instructional process, they may have difficulty making "cold" contacts with employers by telephone. One coordinator helps instructors develop telephone scenarios or scripts for doing telephone interviews. Another coordinator helps teachers by making the first contact with employers.

This coordinator worked with an electronics teacher who wanted to make contact with a large, nationally known industry in a nearby town. The instructor was very reluctant to make the initial contact. The coordinator contacted the industry, set up a meeting with the appropriate company official, took the teacher to the meeting and made the introductions. As the meeting progressed, the coordinator suddenly found himself out of the conversation as the teacher and the company official became engrossed in the unique language of electronics. Now the company official and the teacher talk frequently and that teacher has several former students working for the company.

• Coordinators show teachers how to use occupations and job descriptions in the Dictionary of Occupational Titles to look for spinoff applications. For example, in one of our schools in Oklahoma, a teacher in a motorcycle mechanic program knew that not all his students could be placed as motorcycle mechanics. Using the D.O.T., the job placement coordinator helped the teacher get a broader picture of possible employment for graduates. The teacher visited garden centers, golf courses, boat dealers, lawn and garden retailers and small engine repair shops where his students' core skill in power products technology could be utilized.

Providing Ongoing Support

A student's job search may last many months after they leave a school-to-work system and a student may require ongoing support, advice and information from teachers or counselors to make a successful transition. Even once a student has secured a good job or job-school combination, that student may need information and support to weather some of the complicated aspects of holding one's first job.

If the student secures an interview but doesn't get the job, it's important for the job placement coordinator to counsel the student to determine what happened or what went wrong. Some students will need a lot of encouragement to try again.

Even when a student has a successful interview or gets a job offer, he or she may need coaching and encouragement to negotiate the tricky realities of the hiring process.

For example, a teacher at Autry Tech found he needed to intervene in a situation where an employer wanted to hire a graduating student but had to go through an involved hiring process in which the student was losing patience. The employer had called looking for someone to fill a vacancy in a small engine repair shop. The teacher had a student who had completed the school-based learning component and would soon complete the work-based component of his power products technology program. The teacher counseled the student and encouraged him to apply for the job.

The student eagerly applied, but didn't realize that it would take quite some time—over six weeks—from the time of the application until he actually got the job. Almost two weeks after the student applied, he was called to come in for an interview. After the interview, the employer said he was interested but needed the student to complete a skills test. After successfully completing the skills test, the student was called back to take a drug test and after the drug test he was called back for a second interview.

The teacher advised the student that if he wanted the job, he needed to be patient and persistent. The teacher also contacted the employer, who assured the teacher that his company was definitely interested in the student, but the company had a systematic hiring process that must be followed. In the end, the student was hired, but the process could have gone differently if there hadn't been someone to advise the student to be persistent and keep following the process.

Students may also need to be encouraged to consider moving for good job opportunities. Often relocation is necessary for a student to make a successful transition to work in their field of choice.

It can be frustrating to teachers when students have excellent skills but are "place bound," unwilling to move to another city or state. A HVAC teacher at one of our schools in Oklahoma has a former student who owns a heating and air conditioning business in Dallas, Texas. The Dallas company has offered to hire at least three of the teacher's students each year if they would move to Dallas. Only three students in the past five years have taken advantage of the opportunity (and all three are making at least twice the pay that is available in the local community).

Some students will have unnecessary fears about relocating. They may need to be persuaded to consider applying to reputable companies in other areas or be guided in how to work out arrangements when an out-of-town employer wants to hire them.

Information on Workers' Rights

Before you send students out into the work world, it is crucial to inform them of their rights as workers and arm them with awareness of their legal protection against discrimination and sexual harassment. Unfortunately, some of your former students will probably face these realities in the work world, especially if they go into nontraditional occupations. They will need to know when their rights are being threatened and what course of action they can take to be sure they are hired, paid and treated fairly.

In Oklahoma, we make sure all students have the information on discrimination and sexual harassment laws before they leave our school-to-work system. Our state Curriculum Instructional Materials Center has developed a publication called Education Equity, detailing this information, that is available for all schools to distribute to students. We also hold a mandatory assembly in each school, at which a lawyer or someone trained in legal workplace issues discusses key workers' rights. The assembly is followed by workshops to make sure students understand the information and have their questions answered.

All employers we contact for placing graduating students (or providing work-based opportunities in our school-to-work system) are required to give school administrators written or verbal assurance that they will not discriminate against workers. We also ask all students to report back to us on how interviews with employers to whom we referred them went—particularly if there was any indication of discrimination or harassment.

Developing Portfolios and Passports

A career portfolio is an essential item in helping students make a smooth transition from school to work. A career portfolio has been defined as a student-managed collection of evidence of the student's accomplishments and progress toward career goals. Usually, school counselors and teachers help a student develop a portfolio throughout their junior high and high school years. As the student looks for work or applies for further schooling in preparation for graduation, the portfolio acts as a showcase of the student's knowledge and abilities.

A career passport is defined as a document that verifies that a student has met rigorous state standards for educational skills, program completion, competency attainment, academic preparation, attendance and resume preparation. Students who receive passports are encouraged to seek industry-endorsed credentials, certificates or licenses to supplement their passports.

How it Works in Oklahoma. Oklahoma is in the process of developing a system of career portfolios and career passports. We have modeled our process on that of Ohio state, which has a well-developed portfolio and passport system.

The career counselor for the Carl Perkins Secondary Consortium for Autry Tech works with students at the various schools that feed students to Autry Tech. Eighth graders at these schools are given an assessment test to determine their interests and aptitudes. The counselor begins working with each eighth-grade student to develop a six-year plan of study. Usually the plan of study centers around one of the 13 occupational clusters identified for Oklahoma's business and industry.

As the plan of study is being developed, each student is encouraged to begin preparing a working portfolio. The development process allows the student to document their individual accomplishments and goals, regardless of the length of time they have spent in school or the level of competencies they have achieved.

Because the career portfolio is truly a student-managed collection of experiences and projects, there are no required components. The content of each student's portfolio varies according to the student's education/technical experiences and goals. We do guide each student in developing the portfolio and suggest these possible components:

- **Job related skills.** The student documents all the jobs held, as well as the skills and knowledge acquired that may be related to a career goal. The student should include full-time, part-time, paid and unpaid work, internships or job shadowing experiences. Evidence of learning and achievement on the job can be included, such as: internships or job shadowing experiences, competency certificates, photographs or videos of work projects and instructor or mentor evaluations.
- **Educational skills.** The student includes an overview of educational achievements. Evidence of these achievements may include: transcript of courses completed; examples of a favorite class project; test scores, ACT results or SAT results; and writing or research projects.
- **Employability skills.** The student describes and documents experiences that reflect interpersonal and dependability skills. Evidence of these skills may include: record of participation in vocational student organization and leadership activities; school or work attendance record; and examples of how the student used problem-solving skills in a school- or work-based situation.
- **Career development plan.** The student highlights career preparation experiences. This section of the portfolio might contain: the student's six-year plan, a resume, letters of application, letters of reference, results of interest inventories or aptitude/ability tests and a statement of career and educational goals.
- **Activities, awards and community service.** This would include descriptions of special interests, activities and achievements in school and/or community, such as sports, clubs, hobbies, awards received and volunteer or service experiences.

At the beginning of the portfolio process, the items are usually organized in the student's six-year plan of study folder. As the student's collection grows, the materials are organized in a three-ring binder. Throughout each student's high school years, the career counselor periodically meets with the student, reviewing and adjusting the six-year plan of study and assisting the student with the development of the portfolio.

Once the six-year plan of study is completed, the career counselor helps each student decide what items to include and arrange an attractive presentation of all items for the student's working portfolio. When the student graduates from high school, the career counselor presents to each student (usually at the high school awards assembly) a leather three-ring binder for the student's portfolio collection. This leather-bound portfolio enhances the professional image of the student's portfolio.

Portfolios on Computer. The Oklahoma Department of Vocational and Technical Education has developed a software program for business education students to compile and maintain their portfolio on computer. This electronic portfolio helps students organize evidence of their accomplishments in a manner that may make them stand out from other applicants, thereby giving them an edge. The ODVTE has also developed a computer-based portfolio system for marketing students, which provides the framework for students to develop their own portfolio by simply filling in the blanks in a WordPerfect document.

Career Passports. The career passport is a new concept to the Oklahoma Vocational and Technical Education system. Over the past few years, the ODVTE has developed competency tests for a number of occupational areas and many area vocational schools require students to pass these occupational competency tests to be considered a completer of a program. The next logical step seemed to us to be a career passport.

The term "passport" is generally associated with an official document that allows a person to travel from one country to another. Similarly, the career passport is a document that allows a student to move from one geographical area or possibly even occupation to another and find good job opportunities.

A career passport is broader than simply a diploma, associate's degree or certificate from a vocational program because it includes more elements. Not every student who completes a school-to-work program will qualify for a career passport.

Within the Oklahoma system, a student must attain six components or indicators of success to receive a state-approved Career Passport. These six components are:

- Documentation of educational skills (usually evidenced by a certificate for an educational program and a competency profile)
- Documentation of vocational program completion
- Documentation of competency in at least one occupation (using state-developed competency tests)
- Evidence of academic preparation that supports success in the workplace and eligibility to continue education (usually evidenced by a high school diploma or associate's degree)
- Evidence of meeting local attendance requirements
- Completion of a resume.

In addition to the requirements of the career passport, the student has the option of including documents such as: documentation of industry-endorsed credentials, certificates or licenses; ACT or SAT test results; documentation of work-site learning; documentation of postsecondary courses or degrees; and official transcripts.

A student can use the passport to communicate educational and occupational credentials to potential employers or postsecondary educational institutions. Because the career passport is a standardized folder awarded only to students meeting high standards, we believe it will be recognized by industry as a symbol of a quality worker. The attainment of the six required components provides assurances to employers and educators that students have met rigorous state standards that will prepare them for employment or continuing education.

A career passport does not take the place of a portfolio. These two documents should be used together to provide a comprehensive picture of the student's skills and job readiness.

The components and criteria for Oklahoma's career passport were developed with input from education, business, industry and labor partners. To maintain the integrity of a career passport system, it is important that all schools and all programs meet or exceed the passport guidelines. I believe a career passport should be school-issued, state-verified and have a standardized format. Oklahoma's career passport components are contained in a navy and gold folder, whose appearance is standardized throughout Oklahoma, lending credibility and visibility to the contents.

Although it is important that portfolios be standardized and look attractive, I believe we must be careful in packaging our product so that we do not rely on packaging too heavily or oversell our students. While portfolios may be pretty and credentials may be impressive, the bottom line for business and industry employers is that they want to know what a student can do. It is extremely important that a student can explain verbally and demonstrate physically their technical knowledge to an employer and not just rely on well-packaged credentials.

Providing Guidance for Further Education

It is important that, in working to help find good jobs for students who have decided to move directly from a school-to-work system into employment, you do not neglect to provide all graduating students information on options for further education. Working with your school counselors, you may need to help those students who know they want more education right away find the programs best for them.

School counselors and job placement coordinators should be familiar with all the local opportunities for postsecondary education in all fields, not just the four-year colleges. You should be prepared to encourage students to examine postsecondary possibilities they may not have considered, but which make sense for achieving their career goals.

You will probably be able to help more students make the transition to postsecondary education more smoothly if articulation agreements between secondary and postsecondary schools are a part of your school-to-work system. If your system does not have any links or articulation agreements in place now, you may want to consider moving your system in this direction (see Chapter 9 for a thorough discussion of creating linkages between secondary and postsecondary schools).

Since the middle 1980s Oklahoma's vocational education system, common education system and higher education system have been developing partnerships for students seeking further education. Most of these partnerships have involved cooperative or articulation agreements between an area vocational and technical school (AVTS) and a community college. These agreements usually have involved particular programs or courses.

In the fall of 1994, five AVTS and two community colleges in northwest Oklahoma used Carl Perkins postsecondary funds to form the Northwest Oklahoma Postsecondary Consortium. The consortium hired a coordinator, developed belief statements, a vision and mission statement and determined the consortium goals. The work of the consortium has helped our area schools increase linkages between secondary and postsecondary educational institutions, increase guidance and counseling efforts for all students and promote communication on articulation efforts to interested parties.

A Final Word on Transitions

Making a smooth transition out of the program is part of a successful school-to-work experience. To build this successful student experience, there must be support and backing from the administration as well as a strong commitment from the school personnel involved in helping the student make the transition from school to work. The transition is not something that happens outside your school-to-work system. It is an integral part of it.

Jim Steward is coordinator of the Northwest Oklahoma Postsecondary Consortium administered by Autry Technology Center in Enid, Oklahoma. He has worked in vocational education in Oklahoma for 30 years, as a teacher, a curriculum specialist and former executivedirector of the Mid-America Vocational Curriculum Consortium administered by the Oklahoma Department of Vocational and Technical Education.

Resources

You may find the following resources useful in helping students make a successful transition from your school-to-work system to a good job or further schooling.

- *Implementing Oklahoma's System of Career Portfolios and Career Passports*
- *Quality Indicators—Strategies for Implementing Student and Staff Services in Oklahoma Area Vo-Tech Schools to Assure Effective Transition From School to Work*
- *The Career Connection: From Learning to Earning—A Marketing Communication Plan for the Successful Implementation of Oklahoma's School-to-Work*

The above resources are all available from the Oklahoma Department of Vocational and Technical Education, 1500 West Seventh, Stillwater, OK 74074-4364, (405)743-5434.

- *Conduct Placement and Referral Program Activities,* Module CG C-10, Competency-Based Career Guidance Modules available from American Association for Vocational Training Materials (AAVIM), 800/228-4689.
- *Rural America—Transitional Career Placement In The Rural School.* Wisconsin Vocational Studies Center, University of Wisconsin-Madison, Madison, WI 53706.
- *Student Portfolios.* NEA Professional Library publication, National Education Association, 1993.
- *Career Counseling for Change: Helping Students Transition From School-To-Work (Trainer's Manual).* National Occupational Information Coordinating Committee teleconference, March 10, 1994.

Some of the other resources addressing portfolio development being used by Oklahoma schools include: the Ohio Career Passport and the Career Development Blueprint folder from the Ohio Department of Education, the Wisconsin Career Options Portfolio folder with pocket inserts from the University of Wisconsin-Madison, the Career-Technical Assessment Project Portfolio from the Far West Laboratory for Educational Research and Development and the NCS Abacus Portfolio system from NCS Education.

CHAPTER 30

Evaluating Your School-to-Work System

By Clifton Smith
University of Georgia
Athens, Georgia

To be useful, an ongoing evaluation of a school-to-work system and its outcomes must involve all who participate in the program—faculty, guidance counselors, students, parents, employers, labor officials and related public agencies. It should be a comprehensive measure of how well all of the program goals and objectives of your system are being reached.

Evaluation should concentrate on progress being made for your students, not limit itself to comparisons with other programs or with presumed norms. It is not enough to assess the quality elements of the program, although this is important. It is also necessary to know how well the school-to-work program is serving the needs of all those who can benefit from it. Evaluation also needs to deal with both long-term and short-term goals. Some aspects of a school-to-work program can show improvement in a short period while others will require study over a period of years in order to judge effectiveness.

Objectives of Evaluation

An evaluation of a school-to-work program should have two primary objectives:

- To provide a factual documentation of the characteristics and development of the school-to-work program at the local level
- To provide a basis for identifying effective practices in implementing the program.

An evaluation of a school-to-work program should provide answers to these questions:

- **Does the program work**—are goals and objectives of the program being met?
- **Is the program efficient**—does the program operate in the best way to attain results or are there alternatives or better ways it could be implemented?
- **Is the program relevant**—does the program have a significant impact on students' lives and the community?

To evaluate whether your system has been effective—and how it could be more effective—it is important to develop measures of education and employment outcomes for students and to analyze how those outcomes differ from what might be expected in the absence of changes brought about by the school-to-work initiative.

Evaluation and Goals

Many attempts at a school-to-work program evaluation have met with limited success because planning for the evaluation process was not done at the outset. In some cases, this meant that program goals were not as clearly or specifically developed as they should have been.

As you establish goals and objectives at the outset of your school-to-work program, you should ask three important questions about each goal and future evaluation:

- What means will be used to measure progress toward this goal?
- What information will be needed if a progress measurement is to be made?
- What data will need to be collected and maintained and what steps taken, from the outset of the program to assure adequate information at a later time?

For evaluation purposes, it is not enough to set up vague, general goals and objectives. Standards of accomplishment need to be agreed upon in advance and stated with precision. If the evaluation process is built into the program at the beginning, evaluation is more easily accomplished and you can be more confident of the meaning of your evaluation results.

Goals of School-to-Work Systems

The School-to-Work Opportunities Act of 1994 stated that the goal for this system "is to ensure students a seamless transition from secondary education into meaningful, high quality employment and/or further education." In addition, the three basic components of the program were defined as work-based learning, school-based learning and connecting activities.

For a local school-to-work system, relevant general goals might include a positive effect of the system on: coordinated and integrated school-based and work-based learning, integrated academic and vocational learning, structured worksite learning, skill mastery certificates for academic and workplace learning, connection of secondary and postsecondary learning, entry into related occupational/industrial employment, wage differential/advanced placement status and positive change in long-term employment status. From these general goals, specific goal statements can be developed. Examples of goal statements would be:

- To increase student enrollment in further education at the postsecondary level.
- To ensure that worksite placements are available for all students.

These goal statements refer to the results or accomplishments of students participating in the school-to-work program. Other goal statements could be teacher oriented, employer oriented or even institution oriented. (See sample goal statement in appendix.)

Evaluation at All Stages

Determining your goals is one key element of a successful evaluation. Another element is planning different types of evaluation at different stages in the process of setting up your system.

Evaluation is an integral part of any decision-making process. Even before you begin planning a school-to-work system, you should evaluate and document aspects of your current education system and community. This will help you more accurately determine where you have been and where you are at the outset of your planning. Obviously, evaluation should also follow planning and implementation to determine how well you achieved your stated goals and objectives.

The kind of data you need to collect and how you gather and interpret that data—depends on what stage you have reached in developing your school-to-work system.

Evaluation at the Planning Stage

If you are still in the stage of designing your system, then you need to do some evaluation that defines your current environment and what kind of change needs to occur (sometimes referred to as context evaluation). You will need to conduct a needs assessment to identify your school district's and community's deficiencies, problems underlying those deficiencies and opportunities for change. Information from this kind of evaluation at the planning stage is the basis for establishing program goals and objectives.

As part of your needs assessment, you should gather *baseline data* on students, workers, resources and the community. This baseline data will show where the program started and can be used for comparison purposes later to indicate whether the program has made a difference. General categories of baseline data you should gather early in the planning state include:

- Demographic data on the population of your area and the student-age population in particular
- Data on student behavior and outcomes
- Data on the area's employment picture.

On the following page is a more comprehensive list of the types of data to collect about your school system, students and community.

As You Create the System

At the next stage, that of setting up specific policies and procedures for your school-to-work system (including planning budgets, making changes to the curriculum or your school structure, hiring personnel, setting up procedures for work-based learning and scheduling time requirements for implementing planned activities), you should do an evaluation to determine kinds of resources needed, how to use them and the mix of resources and procedures required to meet program goals and objectives. (This is sometimes referred to as input evaluation.)

The objective of evaluation at this stage is to identify and assess relevant strategies and resources that may be appropriate for meeting program goals. This kind of evaluation will help you select a procedural design or plan of work needed to accomplish your goals. Careful planning of procedures is an essential element in the school-to-work program because of the partnerships that must be built among academic and vocational, secondary and postsecondary and business and education communities.

Some of the information you may want to collect and evaluate at this stage are listed in the box at right.

Evaluation Once System is Implemented

Once you have begun implementing your school-to-work program, you need to begin the type of evaluation most frequently associated with the term—evaluation to identify strengths and weaknesses in the system you have set up and how it is operating. This kind of evaluation (sometimes called process or formative evaluation) is needed to provide periodic feedback to those concerned with the continuing refinement of plans and procedures. One of the goals of this evaluation is to recognize the potential sources of problems or weakness in your program components—and find ways to improve those components. Evaluation of how your school-to-work system is being implemented should document, among other things:

Information to Collect In Creating Your System

Government Financial Information

- Local government annual revenue
- Total revenue from state sources
- Total revenue from federal sources
- Annual expenditures by categories
- Capital improvement budget
- Total property tax rates for specific school purposes

School Revenue Base Information

- Total assessed value of all property subject to taxation
- Official property assessment ratio
- Total property tax levied for schools
- Value of tax-exempt property
- Per capita expenditure for public school education from local, state and federal sources
- Source and amount of revenue used to support vocational education

Training Resources Information

- Training opportunities available in business and industry, private agencies and organizations
- Training available in civilian government agencies
- Training available in military installations
- Training opportunities through Private Industry Councils under the Job Training Partnership Act.

Baseline Data to Collect on School and Community

Population Information

- Total population
- Percentage annual change in population
- Breakdown of population by ethnic background, age and sex
- Urban/rural population and percentage change from rural to urban or vice versa
- Annual birth/death rate
- Natural population increase
- Annual net migration
- Percentage of families with members under 18
- Percentage of families with incomes below poverty level
- Number of families with young children with incomes below poverty level

Employment Information

- Size of civilian labor force and breakdown by ethnic background, sex and age
- Total unemployment rate
- Unemployment rate for youth 16-21, and breakdown by ethnic background and sex
- Characteristics of unemployed people
- Average hours and wages by industry
- Community employment by occupations and industrial groups
- Short-term and long-term labor demands and job opportunities by occupations
- Percentage change in employment by occupational classifications over a specified number of years
- Mobility patterns of the work force
- Typical job duties of specific occupations
- Hiring practices of significant employers
- Characteristics of workers customarily hired in selected occupations
- Anticipated changes in typical job duties of characteristics of workers hired
- Training and apprenticeship opportunities by industrial classification

Educational Information

- Median years of schooling completed, and breakdown by age, ethnic background and sex
- Percentage of population 25 or older who have not graduated from high school
- Percentage of population 25 or older who have completed a vocational program
- Occupational category of all employed people 16 or older, broken down by field of vocational training, age and sex
- Percentage of the population who have completed less than fifth grade
- Public school enrollment by grades
- Percentage of annual high school graduates enrolled in community colleges or technical institutes
- Percentage of annual high school graduates enrolled in four-year colleges
- Community college or technical institute enrollment within geographic area
- Four-year college enrollment within geographic area
- Aptitudes and achievement levels of students as measured on standardized tests

- Numbers of students being served in the school-to-work system
- Characteristics of students being served, including breakdowns by age, sex, ethnic background, family income and achievement in school
- Number and type of work-based experiences in which students are participating and any measures of students' success in those placements or students' evaluations of work-based experiences
- Number and type of partnerships with employers currently established and level of employer involvement in the system

- Description of curricular changes that have taken place and any measures of how faculty and students view the changes
- Faculty and staff involvement in school-to-work planning and activities and any measures of how faculty feel about the program
- Professional development activities in which school staff or work-based personnel have participated
- Parent and community involvement in the school-to-work system and any measures of how parents and the broader community view the system.

Evaluation of Outcomes

Once your school-to-work system has been operating for some time and significant numbers of students have gone through it, you will want to measure the results of your system (sometimes called product or summative evaluation). Measuring and interpreting outcomes and comparing them to your baseline data allows you to determine the accomplishments of your program. At this stage, you would probably want to measure many of the same indicators you measured when gathering baseline data.

If baseline data was not gathered prior to implementing the program, the program administrator will have to retrieve data from school and student records to find out how things were before the start of the school-to-work program.

Using baseline data allows you to make comparisons to verify the effects and outcomes of the school-to-work program. In some instances, the comparison may be limited to a "before and after" design using the longitudinal data—comparing program outcomes before and after school-to-work implementation.

School-to-work program administrators should establish a *longitudinal database* and a means to track and follow up on students for a substantial period of time. Your school-based reporting system must document both short-term benefits and long-term consequences of the school-to-work program.You need to follow up on students over the long term because in reality, the outcomes of students who have been through your school-to-work program will not be known for five or seven years.

As the student longitudinal database is developed over a period of time, comparisons between groups of students can be made, controlling for such variables as participation of special-needs students; student achievement; program completion, curriculum and teaching methods and job placement and earnings.

There are several state-wide databases available that can help you track the education and labor market experiences of students graduating from your school-to-work system. These include the state's unemployment insurance system and admission records to postsecondary institutions. But these databases will need to be correlated with additional information on student school performance outcomes and participation in the school-to-work program to document outcomes of the program. Many local school systems already collect "traditional" student information and, with some modification, these systems might be used as a starting point.

In "tapping" databases, you need to be careful to get any necessary permissions to gain access to information. You may need to seek state exemptions and individual student releases to gain access to certain personal information for evaluation purposes.

Conducting Effective Evaluations

Designing Based on Your Goals

The design of any evaluation of your school-to-work system should be based on the specified goals and objectives of your program. Ideally, in planning your school-to-work system, you should have clearly defined goals and written goal statements. To focus your evaluation, you need to identify *measurable objectives* and *indicators of progress* toward each goal statement. You then need to define existing or new sources of data to gauge progress toward attainment of these measurable objectives and indicators of progress.

Objectives should be specific, written in measurable terms and contribute to achieving the goal statement they support. The indicators of progress are the information that will be collected to determine whether you have met your objectives. For example, if one of your defined goals is to increase student enrollment at the postsecondary level, one of your measurable objectives might be:

> By 1998, 75 percent [specify a number or percentage and a timeline for accomplishment] of high school graduates will elect one of the following options directly following high school graduation:
> (a) enrolling in a two-year institution;
> (b) enrolling in a four-year institution;
> (c) enrolling in a proprietary school; or
> (d) enlisting in the military.

Indicators of progress might include:

- Enrollments in postsecondary institutions in articulated and non-articulated programs by each sequential year
- Number of graduates who are engaged in military training by each sequential year.

Your data or information sources could be either enrollment reports from postsecondary institutions or a follow-up study of all graduates.

To evaluate your system's progress toward this goal during operation of the school-to-work program, program administrators might track enrollments to determine if efforts to develop and implement articulated programs with postsecondary institutions result in higher enrollments.

The percentage of graduates who have enrolled in postsecondary schools could also be evaluated as part of a summative evaluation, typically an end-of-the-year assessment to determine the effects of a school-to-work program and help those concerned with the program make judgments about its merit. A summative evaluation often leads to decisions concerning program continuation, termination or expansion. In this sense, summative evaluation is accountability.

Administering the Evaluation

A key part of your evaluation design is your overall plan for how you will administer the evaluation. You will need to outline the overall evaluation schedule and determine who will complete all aspects of the evaluation design and the amount of time needed. A scheduling technique such as PERT—Program Evaluation and Review Technique—or Gantt charts should be used. Various computer software packages are currently available to assist with this activity.

Each activity of the evaluation design, including the dates for the collection of information, should be detailed on a master schedule. Specific dates should be set for the completion of various tasks and phases of the evaluation and you should indicate an estimated amount of time required to complete them. The time to collect data may be only a few days to several months, depending on the nature of the information to be collected. You should strive for a clear set of steps in a sequential arrangement.

The list on the next page lays out a sequence of steps to follow in planning and implementing your evaluation.

Identifying Information to be Collected

A key part of your evaluation design will be specifying what information must be collected. You should develop and follow a blueprint that outlines the information to be collected, the sources of that information, as well as a timeline for collecting it. No evaluation can depend on a random, scattered "here a little, there a little" approach to data collection. Remember that the evaluation will only be as good as the quality of information collected and that information collected will provide the evidence to be used in judging the value of the program.

You should use a wide range of potential sources of information, both qualitative and quantitative, to gather information for the evaluation. Whenever possible, try to obtain more than one type of information about a component to be included in the evaluation. Obviously, the information collected must be keyed to the measurable

Steps in Planning Your Evaluation

1 Determine the Focus of the Evaluation

- Spell out your objectives for your school-to-work system.
- Define policies regarding who will conduct the evaluation—is it to be a 'self-evaluation" or an evaluation done by an outside party? Decide who will receive the report of your evaluation findings.
- Identify the level of decision-making your evaluation will influence—local community, area or state.
- Define relevant information or data to be acquired for the evaluation.

2 Plan the Collection of Information

- Identify sources for the information you have decided to collect.
- Decide on methods and develop appropriate instruments and materials for collecting the needed information.
- Specify any sampling procedures to be used.
- Determine the time schedule for collecting the information.
- Decide who will collect the information.

3 Organize Assembly of Information

- Develop a format for classifying information according to relationships and comparisons to be made.
- Develop instructions for editing, coding and tabulating the data.

4 Plan the Analyses and Interpretation of Information

- Decide on the descriptive and/or statistical analysis to be used.
- Specify who will perform the analysis and interpret the findings.
- Specify who will be involved in developing the conclusions and recommendations.

5 Planning for the Evaluation Report

- Define the audience for the report.
- Determine the means for presenting findings to the audience.
- Specify the format for the report or report session.
- Determine dates for reporting findings.

objectives and indicators of progress that you identified in designing your evaluation.

Methods for Collecting Information

Not every question in the evaluation must be answered by collecting original data. Some information relevant to the evaluation questions may already exist in a readily available form. Commonly used information sources are:

- Student records such as transcripts, attendance records and test scores.
- Course completion rates and grades.
- Written courses of study and other evidence of curriculum content such as lesson plans and work-based learning plans.
- Student portfolios and work samples.

Several methods can be used to gather information on and evaluate elements of the school-to-work program. The means for securing information should be appropriate to the nature of the information sought. Among the methods and instruments that can be used are:

- Structured interviews or focus groups, using interview protocols or scripts, with teachers, administrators, students, parents, counselors, employers and mentors, union officials, members of school boards and officials of community agencies
- Survey questionnaires to some or all of these individuals or groups

- Observation of instructional practices and activities, at both school and work, using carefully constructed checklists
- Follow-up studies of subsequent employment and educational experiences.

Before constructing a data collection instrument for one of the above methods, you will probably want to examine some that have previously been used. Two things must be kept in mind in the design of data collection instruments and techniques: (1) the objective of the evaluation and (2) the evidence or information needed to serve as a rationale for making judgments and decisions. (See chapter appendix for examples of data collection instruments used in evaluating a youth apprenticeship program.)

Three types of questions used extensively in evaluation are:

Dichotomous questions—those designed to get responses of yes or no, agree or disagree, approve or disapprove (such as, *Did the student possess sufficient skills to perform assigned tasks?*)

Multiple choice—a direct question followed by a number of responses from which the individual is to select the correct or as many responses as they believe are correct or apply (such as, *How many times has the school coordinator visited you at your worksite during the past nine weeks grading period— A. 1 time B. 2 times C. 3 times D. 4 or more)*

Open-ended—a question that allows the respondent the freedom to answer as they choose (such as, *What changes does the program need to make to better prepare students and/or address students' skills needs or behavior problems at the workplace?)*

The wording of questions affects the answers. It is important to word each question so that it will reveal the kind of information you want to find out.

Sampling

For each instrument that is to be administered, you should next specify whether the data is to be collected from all members of a target population (i.e., from all students enrolled in your school-to-work system) or if a sampling procedure is to be used. If you are using multiple data collection techniques, you might want to give each one to a representative sample rather than collecting data from the entire population using a single instrument. Where possible, you should avoid administering too many instruments to the same person. You should use techniques to ensure that you get a random sample, meaning each individual in your population has an equal chance of being selected for your study.

Two methods of selecting a random sample are the stratified sample technique and the proportional sample technique. In a stratified sample technique, you would take a random sample from each of the subpopulations from whom you are seeking information (i.e., parents, graduates, employers). With proportional sampling, you select samples in proportion to the population.

For example, imagine you want to sample your graduates concerning the value they place on the work-based learning component of the school-to-work program. In studying the population of school-to-work graduates, you discover that 75 percent of graduates were female, 25 percent were male. The proportional sampling technique would require that you randomly select 75 percent female graduates for your study and 25 percent male graduates.

Longitudinal Study

Information collected using the above methods and instruments should become part of your longitudinal study. In the longitudinal method, the same overall population (or sample) of students is studied over an extended period of time (usually three to seven years). The longitudinal method allows for in-depth studies of students because the data is accumulated for each student at various levels or periods of time. However, longitudinal studies have inherent practical difficulties. To begin with, they demand an extended commitment. An individual or institution must be willing to spend time and other resources for several years before completing the project. Keeping up with students who move may become extremely difficult. In some cases, it proves difficult to maintain the cooperation of subjects for an extended period of time.

Analyzing and Interpreting the Information

After collecting information for your evaluation, you will need to plan how collected information will be analyzed and reported to decision-makers. Your evaluation design must specify the way in which collected information will be analyzed. Three steps are involved: (1) organizing the collected information, which includes providing a format for classifying information and designating means for coding, organizing, storing and retrieving the information, (2) identifying the statistical techniques to be employed for analyzing both quantitative (numerical data) and qualitative (word data) information and (3) designating the means (including equipment and personnel) you will use to conduct the analysis.

You should have a well-organized system to organize the information to avoid misplacing data and to safeguard the information. A check-in system will also serve as a way to follow-up on non-returns of data collection instruments. Once the data has been collected, it should be checked for completion and then coded for analysis.

How you treat the data will be dictated by the types of data you have been collecting. Quantitative data or numerical data requires a statistical analysis technique. Advanced statistical techniques may not be feasible for quantitative data obtained from survey questionnaires or testing situations and may not be understood by some individuals who will review the report. However, most individuals understand descriptive statistics, such as frequency (counts), percentages and means and you will want to use these statistical techniques.

The computer can be a valuable tool in collecting and analyzing data. All the statistical procedures discussed here can be performed by the computer. Once the data have been correctly prepared and entered into the computer, a large number of analysis and subanalyses can be performed on the same set of data with a minimum of additional effort. There are several computer software packages available for statistical analysis. SPSS (Statistical Package for the Social Sciences) and Systat are both well designed and available for a personal computer and provide a variety of statistical analysis capability

Cross tabulations may be useful in showing variances in program outcomes for different groups (such as by gender, race/ethnicity, age, grade, socioeconomic background). If cross tabulations are used, then other statistical tests, such as differences in means or differences in proportion may be required. Additional statistical tests may also be required to account for variables that cannot be controlled by the evaluator. Variables (or influences) such as performance levels of students and family characteristics can be accounted for by using multivariate analysis techniques.

Qualitative data or word data obtained from interviews, focus groups or some observations usually requires some form of content analysis. Content analysis looks for themes or concepts in the language of the subjects.

In analyzing both types of data, you will need to make interpretations of the results, formulate recommendations and draw conclusions based on your analysis of the information. Your interpretation should be based on data derived from the evaluation and your conclusions should be presented as probability statements rather than facts. Negative results deserve the same respect and interpretation as do positive results.

Preparing an Evaluation Report

An evaluation process will have little value unless the findings are made known to those who can take the steps necessary to improve your school-to-work program. You will need to prepare a clear, factual report of the findings and recommendations and share this report with the appropriate individuals in education, business and the community. This may include reports to institutional administrators, press releases to local media and presentations to local groups and professional associations. The evaluation report is usually divided into the following sections:

- **Executive summary**—gives a three- to five-page synopsis of the evaluation containing the most important findings, conclusions and recommendations
- **Introduction**—describes the purpose and audiences for the report, an overview of the contents and any limitations or disclaimers
- **Focus of the Evaluation**—describes goals and objectives of the evaluation
- **Evaluation Plan and Procedures**—describes the evaluation plan, data collection methods and instruments utilized and techniques used to analyze the data
- **Findings**—gives results of the evaluation, usually presented around the goals and objectives, accompanied by appropriate tables and graphs or charts
- **Conclusions and Recommendations**—draws inferences based on the findings, implications of the findings and possible applications from the findings
- **Appendices**—supporting documents too detailed to be included in the body of the report, such as instruments and technical data

Different audiences have different information needs. In preparing the evaluation report, consider what type of information the audience you are trying to reach will find most practical.

Evaluation reports are usually presented as a written document, but other media can be effective in presenting the report. In using multimedia presentations (slide/tapes, computer slide shows) to present the evaluation findings, you can tailor the level of complexity of your presentation so that the audience can clearly understand the results of the evaluation.

The final step in focusing the evaluation is to prioritize your goals and objectives and project a proposed timeline for phasing them in. Because change does not happen overnight and resources (time, dollars, buy-in) for curriculum materials, staff development and development of agreements will be needed, a phasing-in of the goals and objectives will be required. The timeline for the phase-in should be taken into account when developing the schedule for the evaluation plan.

A Final Word

Planning and implementing a comprehensive evaluation at each stage of creating your school-to-work system takes a lot of time and thought. Reaping the results of your well-done evaluation will probably also take a lot of time. School-to-work program improvement will typically be incremental. Certain changes will be made based upon evaluation results and then future evaluations will focus on the results of these changes. Yet the time and patience required will be worth it. A high-quality, comprehensive evaluation effort will probably mean eventual success for your program and for the students that the program serves. Your school-to-work program has everything to gain and nothing to lose from a sound evaluation.

Dr. Clifton Smith is a professor in the Department of Occupational Studies at the University of Georgia in Athens. He has also served as professor in the Department of Vocational-Technical Education of the University of Missouri-Columbia, as an instructor at Virginia Tech and as a high school and postsecondary marketing teacher in New Mexico. He was a member of the AVA Board of Directors from 1984 to 1987.

EXAMPLE GOAL STATEMENTS AND MEASURABLE OBJECTIVES

Goal Statement: To increase the integration of school and workplace in the curriculum of the ABC School District.

Objectives:

- By 2000, 80% of elementary school students will complete a curriculum which includes the integration of career awareness experiences.
- By 2000, 85% of the students completing middle school will have had a career exploration experience.
- By 2000, 85% of the students exiting middle school will have a tentative career plan and 6- or more-year program of study.
- By 2000, 90% of students completing high school will having completed a program of study which incorporates the STW design.
- 100% of instructional, student support and administrative personnel will have participated in a professional development workshop on school and work integration by 1998.
- By 2000, increase by 50% the number of employers, business mentors, and community leaders participating in the STW program within the school district.

Goal Statement: To increase the student graduation rate in secondary and postsecondary education of the ABC School District

Objectives:

- Increase of 10% by 1998 of students earning a high school diploma.
- By 1999, 90% of high school seniors will make a successful transition to postsecondary education.
- Increase of 25% by 2000 of students earning postsecondary diplomas, certificates or degrees.

Goal Statement: To integrate and coordinate structured, paid worksite learning with the secondary curriculum of the ABC School District

- By 2002, 70% of the senior class will be enrolled in a career major program that includes a structured, paid worksite experience.
- By 2005, 50% of the employers in the community will provide structure, paid work-based learning sites.
- By 2005, 90% of the participating employers and their designated employees will have completed a professional development workshop on coaching adolescents in the workplace.

INITIAL PARTICIPANT SURVEY – YOUTH APPRENTICESHIP PROGRAM

Name of High School: ______________________________

Personal Data:

Name: ______________________________

Mailing Address: ______________________________

City: ____________________, GA Zip Code: __________

Home Telephone: ( ) ____________________

Social Security Number: ____ - ____ - ____ Birth Date: ___ / ___ / ___

Gender: Male ___ Female ___ Current Grade Level: 10th ___ 11th ___ 12th ___

Race/Ethnicity (please specify): ______________________________

Activities -- Athletics ______________________________

School ______________________________

Church ______________________________

Community ______________________________

Work Experience (list previous work experience starting with the most current):

Job Title	Employer	Dates of Employment

Education (please list your current class schedule):

Period	Course (Subject) Title
1	
2	
3	
4	
5	
6	
7	

What category best classifies your overall school standing by way of grades?

A (90 +) ____ B (80-89) ____ C (70-79) ____ D (60-69) ____ F (59 -) ____

Family Background:

Father's Occupation: ______________________ Employer: ______________________

Father's highest level of education:
_____ less than high school degree
_____ graduated high school
_____ more than high school
_____ graduated college
_____ post-college degree

Mother's Occupation: ______________________ Employer: ______________________

Mother's highest level of education:
_____ less than high school degree
_____ graduated high school
_____ more than high school
_____ graduated college
_____ post-college degree

Do you live with your: Parents(both) ____ Father ____ Mother ____ Guardian ____ Other ____

Other Information:

1. Why did you choose to participate in the youth apprenticeship program at your school?

____
____
____

2. What are your educational plans following graduation from high school?

____
____
____

3. What are your career aspirations following either graduation from high school or post secondary education (i.e., technical institute or college)?

____
____
____

NOTE: Please attach the participant consent form and a copy of the student's cumulative school record to this survey instrument.

INITIAL PARTICIPANT SURVEY – YOUTH APPRENTICESHIP PROGRAM (1995-96)

Name of High School: ______________________________

Personal Data:

Name: ______________________ Social Security Number: _____ - _____ - _____

Permanent Mailing Address: ______________________________

City: ______________________, GA Zip Code: ______________

Home Telephone: ( ) ______________ Birth Date: _____ / _____ / _____

Gender: ☐ Male ☐ Female Grade Level: ☐ 10th ☐ 11th ☐ 12th

Race/Ethnicity: ☐ African-American ☐ Asian/Pacific Islander ☐ Caucasian ☐ Hispanic
☐ American Indian ☐ Other (please specify): ______________

Family Background:

Father's Occupation: ______________ Employer: ______________

Father's highest level of education:
- ☐ less than high school degree
- ☐ graduated high school
- ☐ more than high school
- ☐ graduated college
- ☐ post-college degree

Mother's Occupation: ______________ Employer: ______________

Mother's highest level of education:
- ☐ less than high school degree
- ☐ graduated high school
- ☐ more than high school
- ☐ graduated college
- ☐ post-college degree

Do you live with your: ☐ Parents (both) ☐ Father ☐ Mother ☐ Guardian
☐ Other (please specify): ______________

Education Background:

Expected year of graduation from high school: 19_____

Please list your 1995-1996 planned class schedule:

Period	Course (Subject) Title
1	______________
2	______________
3	______________
4	______________
5	______________
6	______________
7	______________

What category best describes your *overall* school standing in terms of grades?

☐ A (90+) ☐ B (80-89) ☐ C (70-79) ☐ D (60-69) ☐ F (59 -)

What school-related or extra-curricular activities are you involved in (i.e., athletics, clubs, community organizations, social/church groups)?

____

____

Employment Information:

Have you recently held a job, either full- or part-time, prior to enrolling in the youth apprenticeship program?

☐ Yes Name of Business: ______________ Position: ______________
☐ No

If you answered *"yes,"* do you intend to keep this job as part of the youth apprenticeship program?

☐ Yes ☐ No

Will you hold another job outside of the employment position with the youth apprenticeship program?

☐ Yes (if *yes*, why? ______________ Type of job: ______________)
☐ No

Other Information:

Why did you choose to participate in the youth apprenticeship program at your school?

____

____

What type of occupation or job do you expect the youth apprenticeship program to prepare you for?

____

What are your immediate plans in regard to school and/or work following graduation from high school?

Name of School: ______________
Intended Major: ______________
Type of Work: ______________ ☐ Full-Time ☐ Part-Time

What is your career goal (what do you want to be doing five years from now)?

____

____

NOTE: Please attach the participant consent form and a copy of the student's current high school transcript to this survey instrument.

YOUTH APPRENTICESHIP END OF THE YEAR (1994-1995) FOLLOW-UP

For each student completing the high school portion of your youth apprenticeship program and who have graduated (or will graduate from summer school) please provide follow-up information.

Student's Name: ______________________________
Social Security Number: ______________________
Permanent Mailing Address: ______________________________
City: ______________________ State: __________ Zip Code: __________
Home Telephone: ( ) ______________________

Occupational title (job) for which student is/was preparing: ______________________
Name of Employing Firm in which student apprenticed: ______________________
Name of Employer (Mentor) of student: ______________________
Mailing Address: ______________________________
City: ______________________ State: __________ Zip Code: __________
Telephone: ( ) ______________________

Follow-Up Questions

1. Will the student continue with the same employing firm next year ***as part*** of the apprenticeship?
   Yes ____
   No ____ (If no, for what reason?) ______________________________

2. Will the student enter into ***full-time employment*** rather than continue the apprenticeship program or entering postsecondary education?
   Yes ____ (Is the employment related to the apprenticeship training? Yes ____ No ____)
   No ____

3. Will the student enter into postsecondary education (i.e., technical institute, four-year college) next year ***as part*** of the apprenticeship?
   Yes ____ (Name of Institution: ______________________________)
   (As a full-time student: ______ As a part-time student: ______)
   No ____

4. Will the student enter into postsecondary education (i.e., technical institute, four-year college) next year that ***is not part*** of the apprenticeship?
   Yes ____ (Name of Institution: ______________________________)
   (As a full time student: ______ As a part-time student: ______)
   No ____

5. Will the student enter into some ***other type of advanced training education*** (i.e., military, registered apprenticeship) rather than full-time employment or postsecondary education?
   Yes ____ (Type of Training: ______________________________)
   No ____

PLEASE ATTACH A HIGH SCHOOL TRANSCRIPT THAT REFLECTS ALL COURSES TAKEN BY THIS STUDENT TO THIS FORM

GEORGIA YOUTH APPRENTICESHIP PROGRAMS – Implementation Phase Data Collection

Name of Youth Apprenticeship Coordinator: ______________________________

School District: ______________________________

Names of High School(s) participating in the Youth Apprenticeship program: ______________________________

____

YOUTH APPRENTICESHIP PROGRAM DESCRIPTION

Please describe your youth apprenticeship program. *For Example*: This is a four year program (two years at ABC high school, two years at XYZ Technical Institute) that prepares students from two high schools for careers in drafting and manufacturing. Students begin part-time employment in their junior year and work full-time during the summer and part-time during the senior year. Classes are taught jointly by the youth apprenticeship coordinator, math teacher and the drafting teacher. Special classes are held at the XYZ Technical Institute once per week. etc., etc.

Please attach any additional information that may be needed.

____
____
____
____
____
____
____
____
____
____

YOUTH APPRENTICESHIP PROGRAM DROPOUTS

Some students may have dropped from the youth apprenticeship program from the initial enrollment. Please indicate the name of the student and reason(s) they exited from the youth apprenticeship program:

Name of Student	Reason(s)

YOUTH APPRENTICESHIP STUDENT EXPECTATIONS

In your discussion/involvement with students in the youth apprenticeship program, what problems have students encountered (either at school or at work) or program features have they expressed discontentment with? General themes or specific items.

SCHOOL-BASED LEARNING

Please describe how the school-based portion of the youth apprenticeship has been implemented in the following major headings:

School Schedule

How has the "normal" school day schedule been adjusted for students in the program such as block scheduling, grouping youth apprentices in the same classes, or other arrangements?

Curriculum Content

How has the curriculum for the youth apprenticeship program been developed and implemented? For example is there a core curriculum that all youth apprentices must enroll in? Is there a structured sequence of courses specific to the program? Do students enroll in "regular" classes and take a related course for the youth apprenticeship program?

How much emphasis is placed on vocational instruction in the school portion of the program for the youth apprentices? Do the youth apprentices take a specific vocational course in conjunction with the program? If so, which vocational courses?

How is the integration of academic and vocational education learning integrated or applied to the youth apprenticeship program? Are students required to enroll in required "tech-prep applied" courses? If so, which ones (i.e., applied math, principles of technology, etc.)?

How is the youth apprenticeship school-based curricula linked to the work-site experience? How have experiences/skills called for at the work-site taught in the school-based portion of the program?

Instructional Methods

Have any changes been made in the instructional methods used in school-based courses that youth apprentices are enrolled in (i.e., team teaching, problem solving activities, cooperative learning, etc.)?

Career Guidance and Counseling Support

Describe how or what career exposure activities and counseling methods have been integrated into the youth apprenticeship program.

Linkages to Post Secondary Education

Describe the linkages that have been developed with post secondary education institutions (i.e., Technical Institutes, Colleges, etc.). *For Example:* Items as articulation agreements, students dual-enrolled, number of credits applied toward a degree for school-based and work-based learning, field trips, tuition plans. *Please indicate which post secondary institutions these linkages have been developed with.*

WORK BASED LEARNING

Please describe how the work-based portion of the youth apprenticeship has been implemented in the following major headings:

Timing and Duration of the Work-Based Learning

Describe how the workplace experiences are planned and implemented. *For Example:* Short-term non-paid job shadowing in the 11th grade for 40 hours, full-time (40 hours per week for 12 weeks) paid employment in summer between junior and senior year, and part-time (20 hours per week for 36 weeks) paid employment in the 12th grade, continuation with employer part-time during post secondary education.

Wages or Compensation

Describe the wage or compensation scale used for the youth apprenticeship program. *For Example:* Students are employed at the federal minimum wage with/without benefits. Students are paid a progressive wage scale based on a criteria.

Skill Development and Training Plans

Describe how structured and progressive skill development and training plans for youth apprentices are developed for the work-based learning portion of the program and then integrated with the school-based learning.

Mentors and Work-Place Supervisors

Describe the process used to select work-place mentors for youth apprentices and the type of training that mentors received to work with students.

STRATEGIES FOR INTEGRATING SCHOOL AND WORK

Integration of school-based and work-based learning is considered a key feature of the youth apprenticeship program. Please describe the success or lack of success that has been achieved in this area.

YOUTH APPRENTICESHIP PARTNERSHIPS

Youth apprenticeship programs require partnerships between high schools, post secondary education and employers and third party organizations (i.e., Chambers of Commerce, unions). Please describe your success or lack of success that has been achieved in developing and implementing the youth apprenticeship program with these partners.

RECRUITMENT OF EMPLOYERS

Please describe your success or lack of success that has been achieved in recruiting employers to participate in the youth apprenticeship. What strategies have been successful? What barriers or obstacles have been encountered?

END OF THE YEAR SURVEY
DESCRIPTION OF YOUTH APPRENTICESHIP PROGRAM

Name of School District: ____

Name of YAP Coordinator: ____

Participating high school(s): ____

Youth Apprenticeship Program Information

1. Occupational career cluster of the youth apprenticeship program:
   - ____ Engineering/Technical Cluster
   - ____ Health/Medical Cluster
   - ____ Environmental/Agricultural Cluster
   - ____ Business/Marketing/Information Systems Cluster
   - ____ Human Services Cluster
   - ____ Multi-Occupational Cluster (program not targeted to a specific industry or cluster)

2. Specific occupation(s) for which youth apprentices are preparing (i.e., radiology, accounting):
   ____
   ____

3. How many students (number) completed the secondary (high school) portion of the youth apprenticeship program this year? ________ students

4. How many students (number) dropped out of the youth apprenticeship program this year? __________ students

5. What was the main reason(s) for the student(s) to drop out? ________________________
   ____

6. Based on your experience this year, will you change the student eligibility requirements for the youth apprenticeship program for next year?

   - ____ Yes (indicate changes: ____)
   - ____ No

7. What was the approximate break-down of hours per week that a "typical" youth apprentice was engaged in the school-based (in-school classes) and work-based (on-the-job) portion of the program?

   Hours per week for school-based portion: _____
   Hours per week for work-based portion: _____
   Total hours per week: _____

8. What changes are being made to the school-based academic program in the local school for the youth apprenticeship program next year (i.e., specific technical course, related employment course, team teaching, etc.) based on experiences this year?

____

____

9. Is curriculum restructuring being implemented to integrate academic and vocational learning for the youth apprenticeship program?

____ Yes (please describe: ______________________________________)

____ No

10. Are activities being planned/conducted for preparing academic and vocational teacher and counselors for integration of academic and vocational learning for youth apprentices based on employer or skill standards? (If yes, please describe):

____ Yes (please describe: ______________________________________)

____ No

11. Did you conduct a mentor training program for the employer/supervisors prior to placing students at the worksite as part of the youth apprenticeship program?

____ Yes

____ No (if no, why not: ______________________________________)

12. How will the "typical" student move into the postsecondary education portion of the youth apprenticeship program (i.e., pre-enrolled, articulated courses, etc.)? Please describe:

____

____

13. Who will oversee/handle the youth apprenticeship student at the postsecondary level (i.e., vocational instructor, counselor) and how have arrangements been made to ensure a transition of the student to the next level? (please describe)

____

____

____

14. Please list the main reasons for the degree of success that has been achieved by the youth apprenticeship program this year.

____

____

____

____

15. Please list problems (barriers or obstacles) that still remain to be resolved in the youth apprenticeship program after one year of operation.

16. Based on your experiences this past year with the youth apprenticeship program, what changes will be made in your local program?

17. What changes need to be made in the local/state administration of youth apprenticeship programs?

18. Other comments pertaining to the youth apprenticeship program that need to be noted based upon your experience this past year?

Thank you for your participation in all phases of data collection this year!

Please return this survey form and student follow-up forms with transcripts by JUNE 21, 1995 to be included in the end-of-year report to the Department of Education. Return to:

Cliff Smith
Department of Occupational Studies
629 Aderhold Hall
University of Georgia
Athens, GA 30602

Sample Questions for Focus Groups/Interviews

All Participants

1. What do you see as the goals of the youth apprenticeship program from your point of view?
2. Based on your experience to this point, how would you evaluate or rate the youth apprenticeship program? (i.e., very satisfactory, satisfactory, unsatisfactory)
3. How could the youth apprenticeship program be improved?
4. What problems/obstacles have you encountered in participating in the youth apprenticeship program? How were the problems/obstacles resolved?
5. How would you evaluate or rate the school's overall relationship with local businesses in conducting the youth apprenticeship program?
6. If asked to name the most interesting and unusual feature of the youth apprenticeship program, what would it be?
7. What changes would you like to see made in the youth apprenticeship program? What are your reasons for these changes?

Administrator/Teacher Participants

1. What type of in-service or training has been provided teachers (both academic and vocational) who work with the youth apprentices in the school?
2. Have any changes been made in the school program to accommodate the youth apprenticeship program (i.e., flex scheduling, grouping of students, release time)?

Employer/Mentor Participants

1. Have any youth apprentices been involuntarily terminated at your company's request? What were the reasons for this (these) termination?
2. How were the youth apprentices selected for participation and placement with your company? Was this procedure satisfactory from your viewpoint?
3. Please describe your procedures for training youth apprentices for the work to which they are assigned. Did you develop a written training plan with local school representatives?
4. Does the training or training plan relate to the courses the youth apprentice is taking at school? Do you provide any special classroom instruction for the youth apprentice?
5. If you don't serve as the supervisor (mentor) for the youth apprentice, how are supervisors (mentors) selected to work with the youth apprentice?
6. Do these individuals receive any special instruction or training for working with the youth apprentice?
7. How have the "regular" employees reacted to the company's participation in the youth apprenticeship program and to the youth apprentices?
8. Do you anticipate hiring the youth apprentice on a full-time basis when he/she completes the 2 to 3 years of the program including postsecondary education?

Student Participants

1. What was your main reason for enrolling in the youth apprenticeship program?
2. Who first told you (or how did you find out) about the youth apprenticeship program?
3. Did you ever discuss your course and occupational choices with a guidance counselor at your school?
4. How often are you supposed to report to your apprenticeship training site? (i.e., every day, on alternate days, etc.)
5. How many hours a week are you at your apprenticeship training site?
6. How many hours a week are you in "school-related" classes?
7. How closely related is your apprenticeship training and school-related classes? Do you see a correlation between the two?
8. Where have you learned the most about the skills needed for your job? At the work site or school?
9. Has the youth apprenticeship program helped you decide about your occupational and further education future?
10. Overall, does the youth apprenticeship program fit in well with your future career interests or aspirations?

CHAPTER 31

Getting Continuing Funding for Your System

By John O'Malley

O'Malley International Associates

Los Angeles, California

You're in the superintendent's office trying to explain how the school district's government-supported school-to-work program has helped many young people prepare for challenging careers. You see a bulletin from the state on the desk between you and the superintendent. It announces that the House-adopted budget will soon eliminate federal funding for school-to-work programs. You're in the position where you must propose strategies for strengthening and perhaps even saving a program that has produced ready-to-work high school graduates. What can you do after quietly exiting from your chair as the superintendent takes a phone call from a board member?

You might first want to locate those old proposals you submitted to the Departments of Labor and Education to see whether the district's grants assistance unit or development office worked out a plan for ongoing operations. But you know that option is not really the answer. You think of other vocational education programs that were abolished by government cutbacks and cannot remember which ones were brought back to life, even by extraordinary means.

Successful Strategies

The process for keeping a school-to-work system going is much different than creating a simple fund-raising campaign. Instead of dreaming up good ways to attract foundations and corporations, first you must make sure that your school-to-work system really makes a difference in the community.

Do students succeed in applying their academic preparation to the real work world? Do employers give students career opportunities because they value the paid internships and other school-to-work components you offer? Do teachers want to participate in the program? In short, does your program solve a workforce quality problem?

One essential point to realize is that foundations and corporations are unlikely to support a school-to-work program that involves few businesses and targets obsolete jobs. The survival of your system depends on businesses in your area, large and small, being familiar with and valuing your program. Ensuring that your school-to-work system meets the needs of the local business community, employers and the community at large is perhaps the most important factor in helping solve funding problems. Here are 10 strategies that can help you to accomplish that.

Prospectus

Prepare a comprehensive written synopsis—or prospectus—that explains and promotes the best features of your program. The objective of the prospectus is to provide the potential "investor" with the necessary details about the program and its special components.

Distribute the prospectus to potential funders with letters requesting assistance. Share it with civic organizations and the business community. The sample prospectus in the chapter appendix, used originally in Los Angeles, has been adapted by programs across the country to gain funding.

Media Kit

Make sure that your program is bad-publicity proof. In recent years, many government-sponsored vocational education programs have been under scrutiny by the media either because they were too ambitious in their claims or because they were out of touch with the real world of work. School-to-work programs are just now showing that their designs are successful in getting business and education to work together to serve the "forgotten half"—students who will not attend a four-year college—and all students.

Add a media kit to your program files. It is much easier to generate good publicity and keep your program in the public eye if you have materials ready to distribute.

This kit should include an updated list of media contacts, photos of the students, testimonials from students, parents, employers and school district officials and sample press releases. Use the program prospectus to create a one-page fact sheet outlining the program and include that in the kit. The materials do not need to be elaborate, just functional.

For example, a press release about an annual event can be updated each year and used again.

Emphasize Career Preparation

Communicate the purpose and benefits of the program clearly. Emphasize the business and career preparation focus and avoid the special needs trap. Many school administrators, when nervous about program cuts, tend to characterize students as needy in special ways, hoping the public will be sympathetic. For example, one well-meaning principal at a Los Angeles area high school recently said that cuts in vocational training programs hurt students who are unable to meet college entrance requirements.

These kinds of assertions are a disservice to everyone. The students enrolled in the endangered school-to-work programs are portrayed as underachievers on the verge of dropping out and accepting low-skilled jobs. Students who choose to go to college are portrayed as not needing the career awareness and life skills school-to-work provides.

Instead of portraying school-to-work as only for those with special needs, demonstrate to the business community that your program is focused on technologically oriented careers and that it helps young people succeed.

Strengthen Program Orientation

Businesses and foundations want evidence that a school-to-work program is improving the skills of students and adding quality to the local workforce. Review the entire scope and design of your program. Identify ways to strengthen its orientation toward and connection with the business community and to improve overall management and coordination. Develop a plan of work to accomplish these.

Document Results

In most instances, a government-sponsored school-to-work program communicates regularly with state and federal funding sources through a series of fiscal reports and brief outcome-based narratives. Often program administrators and teachers erroneously assume that this way of showing accountability in their program will translate smoothly into persuasive arguments for support by corporate community relations or foundation staff.

Instead, a school-to-work program needs to document its impact in different ways. The objective is to show that employers are benefiting and students are gaining access to high-skilled employment or continuing their education.

- Invest in a survey of local companies to determine whether they benefit from school-to-work program and to identify their training and education requirements for different positions.
- Collect data from the school system about attendance and graduation rates. Work with nearby community colleges to determine changes in the

number of your students who have been enrolled and the types of courses taken in their first year (remediation, technical and other).

Strengthen Business Involvement

Ongoing, two-way communication between the business community and the school-to-work system is critical for continued operations. The following are ways you might strengthen the involvement of businesses in your system:

- Coordinate a meeting with school/district staff and representatives from key corporations (at the local Chamber of Commerce or an industry trade group) to discuss details of proposed and current program initiatives, to identify employer needs within specific occupations or occupational areas and to schedule activities and structure the management of possible projects.
- Recruit advisory board members that represent companies, trade unions and local and national trade associations within an occupational sector. Identify representatives from the Chambers of Commerce, community organizations, postsecondary institutions and parents for future membership on the advisory board.
- Invite business leaders and front-line managers to meet with instructors to review relevant curriculum and to discuss courses and classroom activities to integrate occupational and academic skills.

Management and Coordination

Potential funders want to put their money on programs that are well run. Make sure your review examines program logistics and opportunities for staff development. Actions that might help include:

- Prepare a student recruitment action plan that will not only meet school performance goals throughout the district but will involve school counselors, principals and parents.
- Formulate a district-wide student calendar that includes field trips to corporations' facilities, possible unpaid and paid internships, year-round worksite learning experiences and mentoring opportunities.
- Facilitate a staff development program for school/district administrators, guidance counselors and instructors about the integrated learning in specialized courses of study for selected occupational clusters.
- Monitor the progress of program development efforts and provide regular reports that recommend changes in how best to operate program components, such as the introduction of specialized courses. Provide technical assistance throughout the implementation of the project in the school year. Prepare summary reports on evaluating the performance of the program and recommending changes for improvements in the program's components.

Build on Your Strengths

Make effective use of current supporters in the business community. Ask a business leader who is familiar with the value of your program to present a strong case in writing for support to other companies and foundations. These contacts can help identify potential funding opportunities, such as a new manufacturer who needs trained workers that your program can supply.

Locate Supporters

Go where you can find corporation and foundation contacts and can demonstrate the vital role a school-to-work program plays in finding solutions to economic and workforce development programs. To keep your program going, you need to learn exactly which companies, corporations and foundations can potentially become benefactors of your program. Consider these activities:

- Contact the district's grants assistance or development staff if they have close ties to the business community and the non-profit sector.
- Check with traditional sources. Ask your local librarian for a book or list of corporate and non-profit foundations in your state and community. Library online services can also provide access to foundation databases.
- Speak with a university development staff person about contacts, or speak with the business editor of your daily newspaper to discuss your program needs.

- Attend a local Chamber of Commerce meeting to understand the concerns of local employers. Contact the local Private Industry Council about workforce development activities.
- Talk to an economist at one of your community's major banks to find out what is particularly important to the economic health of the city or region in which you work.
- Interview job counselors at the unemployment office to determine what kinds of young people are seeking help.
- Ask the mayor's office whether you can meet with the business development office.
- Meet with representatives of small and/or minority business owner associations to listen to what they have to say about the challenges they face.
- Schedule speaking dates at networking events of human resources professionals to promote your school-to-work program.
- Write an opinion piece for the local newspaper or radio station about the effectiveness of your school-to-work program.
- Call your local talk-show host and give advice about how to help the community's education system.
- Call the television station's assignment editor.
- Ask your students to volunteer at high profile charitable functions.

Such efforts will greatly increase your knowledge about the community and will likely ensure that your phone calls are returned, especially when your program becomes vulnerable to government cutbacks in funding.

Identify Appropriate Resources

Act quickly to locate resources and technical assistance to bolster your program's overall quality. Carefully examine your program's costs to determine appropriate sources of support for the different categories. Foundations are more likely to support salary and administrative costs while companies may be better able to provide supplies and materials. If you have done your homework and have established a "resourceful" network, you will be able to take advantage of opportunities to add value to your school-to-work program.

Supplies and Inventory. Make deals with companies that have unsold inventory to gain additional instructional materials for your program. You might offer to take equipment or material a company has recently replaced.

Professional Development. To enhance professional development, start looking for corporate training courses to see whether your teachers can attend for minimal or no cost. Offer to fill a company's empty seats at a scheduled session. Identify companies willing to sponsor faculty internships or job shadowing programs to familiarize teachers with workplaces. You can also invite trainers from company training offices to present sessions on a topic such as motivation.

It is important that you always think imaginatively and meet the "grass roots demands" of employers in as many reasonable ways as possible. These approaches work to invite supporters to your program—long-term supporters who will want your program to continue if its funding is threatened.

Conclusion

With the end of a government grant, these strategies will not guarantee success. But they will provide a good school-to-work program administrator with some practical steps to follow to make success more likely. A final suggestion: Look for existing programs that no longer need government funding and learn why they continue growing. More often than not, these programs developed the right relationships with businesses from the start. They made sure that all promises were kept.

John O'Malley is president of O'Malley International Associates, a Los Angeles-based consulting firm specializing in the marketing, design and implementation of training programs for the public and private sectors. Mr. O'Malley served as a consultant in program planning and development for the Los Angeles Unified School District and was editor of the Los Angeles Business Journal, a weekly business newspaper.

Sample Prospectus

Academy of Finance (Los Angeles Model)

This Academy model is a school-to-work program that prepares inner city students for full opportunities in mainstream workplaces and advances a distinct academic purpose for underrepresented minority and initially non-college-bound students.

Background

The Los Angeles Academy of Finance is based on the Academy of Finance program that was established in the New York public school system in 1982 through partnership between the American Express Company and Shearson Lehman Hutton.

As the Academy of Finance gained a nationwide reputation as a successful solution to the challenge of workforce preparation of young people, American Express formed a non-profit 501(C)3 educational organization called the National Academy Foundation. This organization now meets the demand from public school systems for proven school-to-work models that connect schoolwork and worksite training to produce students with marketable job skills. The foundation's chairman is corporate attorney and presidential counselor, Vernon E. Jordan Jr., who oversees a nation-wide effort that encompasses 110 academy programs serving more than 4,000 students in 32 cities and 55 schools.

In Los Angeles, the Academy of Finance was established in 1988 by the Los Angeles Education Partnership (LAEP), a local non-profit education reform organization, in cooperation with the National Academy Foundation. The program presently serves 300 juniors and seniors in five Los Angeles Unified School District (LAUSD) high schools: Los Angeles High School, Foshay Learning Center, Wilson High School, Dorsey High School and the Downtown Business Magnet. Additionally, in the last five years, the Los Angeles Academy of Finance has been responsible for preparing 250 high school students for financial services careers.

The model is based on the premise that there is a mismatch between the secondary classroom and the demands of the adult workplace. The Academy of Finance was created to help juniors and seniors in public high schools develop academic competencies as well as career skills through an enriched, elective two-year comprehensive academic program.

The Academy of Finance model features:

- **Specialized courses and classroom activities.** Students in the Academy of Finance take two or three specialized courses per semester in addition to their regular school subjects. These courses, which have been designed by educators and, most importantly, by financial services experts, include the World of Finance, College Accounting, Securities Operations, Banking and Credit, Financial Planning and International Finance.
- **Paid internships.** Once students have fulfilled the academic requirements of their junior year, they are screened and interviewed for summer and intersession internships in local financial services firms. The student candidates are evaluated and selected by employers; they work a six-to-eight-week, paid, full-time job. The company is asked to ensure that the student's duties reasonably correspond to the subject-matter learning offered in the academy's courses. The employer also evaluates the student's performance during the internship and submits an appraisal to the program staff. More than 200 LAUSD juniors have been placed in paid internships since 1989.
- **College-level experience.** Academy of Finance students are required to take one college-level course at a local university or a community college. The principle underlying this approach is that many students, because of this collegiate experience and their internships, begin to make a connection between higher education and successful careers. The result is that they decide to stay in

school and obtain their high school diploma in order to continue their education. Ninety percent of the academy graduates go on to either a junior college or four-year university. The Academy of Finance in Los Angeles presently collaborates with the University of Southern California's School of Business, which provides a two-credit course entitled Corporate Finance at no cost for academy seniors at the USC campus. The course is taught by leading economics professors.

- **A chance to establish contacts with the adult work world.** Through the Academy of Finance program, students become familiar with the people and organizations involved with the financial services industry. They meet chief financial officers, stock brokers, investment bankers, accountants and financial planners. They attend business forecast seminars, economics conferences and listen to discussions about trends in business. They also discuss their career potential with members of the Academy of Finance Advisory Council.

- **Strategy for professional development.** The success of the academy program is based on the quality of the teachers and school administrators who are involved in preparing students for entry-level work and future careers in financial services. Regular in-service sessions about financial services in terms of course content and instructional strategies are a key element of the academy model. The nine teachers, one counselor and three principals who currently are involved in the program responsibilities of the Los Angeles Academy of Finance, regularly request enrichment and training opportunities to better build the connection between work and education for students. The net result of this strategy is that teachers and school administrators understand the importance of their leadership roles in inspiring their students to acquire basic intellectual skills that enable them to succeed in the real work world.

- **Advisory council role.** To promote the success of the Academy of Finance, an Advisory Council, composed of the financial services industry's leading representatives, is essential. Each member of the Advisory Council is asked to support the academy with financial contributions, student internships and professional development opportunities. Moreover, the Advisory Council is the key leadership element in all fund-raising efforts. The Los Angeles Academy of Finance Advisory Council is comprised of leading representatives from the local financial services community, e.g. Bank of America, Smith Barney, The Holden Group, Sumitomo Bank, Sanwa Bank, KPMG Peat Marwick, Wells Fargo Bank, Merrill Lynch, The Capital Group, ARCO, Payden & Rygel, American Express and Union Bank.

- **National recognition.** U. S. Department of Education authorities recently recognized the value of the Academy of Finance model by endorsing it as a National Diffusion Network program, which means that this school-to-work model should be replicated and expanded around the country.

The Role of Vocational Student Organizations in School-to-Work Programs

There are several opportunities for vocational student organizations to perform a significant role in the development and implementation of various components of school-to-work systems. Advisors should seek out and actively participate in state and local activities regarding school-to-work. Here are key areas where VSO advisors should become actively involved:

School-to-Work Networks

At the state and local level, collaborative partnerships will ensure that a broad composite of all entities who are stakeholders in a school-to-work system can provide guidance and input. Vocational student organizations should be a part of all school-to-work networks at both the state and local levels. Representation in these partnerships can ensure VSOs an active role in the design, development and implementation of state-wide school-to-work systems and local school-to-work programs.

School-Based Learning

Significant attention is given to the importance of career guidance activities in school-to-work systems. Every student that is part of a school-to-work program should participate in a career awareness or career exploration and counseling program no later than the seventh grade. Local VSO chapters can assist in this activity by exposing students to a wide variety of occupational clusters. In the initial stages, this may be in the form of business/industry representatives speaking and interacting with middle school students at the school site. The intermediate stage would involve industry tours and job shadowing activities. Ultimately, students would choose a work-based learning experience in the form of an internship or mentor activity. All of these activities can be easily facilitated by the VSOs because of their existing relationships with business/industry and labor.

Every student who participates in a school-to-work program will be required to select a "career major" by at least the eleventh grade. One of the subcomponents of a career major is that the career major must prepare the student for employment in a broad occupational cluster or industrial sector. Each VSO discipline is in itself an occupational cluster. VSOs will need to work closely with the school-to-work program designers so that as occupational clusters are established within the programs, they are closely aligned with the available vocational student organizations in the region.

Work-Based Learning

One of the biggest questions yet to be answered is: what will be the level of participation by employers? Clearly, the VSOs and their students have been tremendous ambassadors to the business/industry/labor environment for years. Local VSO advisors and their students can play an active role in contacting and recruiting potential employers to become involved with developing local partnerships.

Another element of the work-based learning component is that students receive instruction in workplace competencies. Employers today increasingly emphasize that academic and technical skills are not the only skills needed by students in order to enter the workplace. Today's high-performance workplace requires a diversity of general skills, such as teamwork, problem solving, positive work attitudes, employability and participative skills, as well as critical thinking. These competencies make up the core of the educational programs upon which vocational student organizations are founded. Vocational student organization program administrators must work to infuse these competencies into school-to-work programs.

In most regions, local business and industry will probably lack the capacity to provide work-based learning for every student. Again, the VSOs can play an integral role providing quality paid and nonpaid work experiences through school-based entrepreneurial and cooperative programs. Especially in rural areas, where even fewer opportunities will exist for work-based learning, the VSOs can provide guidance and development strategies for initiating or expanding school-based enterprises.

The national VSO offices provided leadership at the national level in underscoring for Congress the important role that vocational student organizations have provided for years in the delivery of vocational-technical education. Due to this effort, the School-to-Work Opportunities Act contains language providing that students participating in school-to-work programs must receive instruction in "all aspects of an industry." Clearly, the various vocational student organizations for years have provided extended learning competencies related to a variety of vocational areas. Their contribution has been even more valuable because the instruction the VSOs provide is broad enough to ensure that the student understands and can competently navigate the area beyond the prerequisite academic and technical skills. It is this kind of well-rounded employee who can integrate a variety of skills and competencies that will be demanded by the high-performance workplace of tomorrow.

Connecting Activities

It cannot be emphasized enough that a well-developed set of comprehensive connecting activities serving as the critical linchpin ensuring successful school-to-work programs is of critical importance. There are several opportunities here for the VSOs to assist in the implementation of a school-to-work program.

Each school-to-work program will be required to provide services that match students with employers. As stated earlier, this will probably be an integrated component in that a student, as he or she progresses through the program, will at various intervals come in contact with various representatives of business/industry. The VSOs' long-standing relationship with business/industry representatives will provide a natural conduit for these students to access work-based learning opportunities. Their previous interaction with each other through regional and state workshops, conferences and contests should make the matching of students with the appropriate employer an instinctive process.

School-to-work programs, when fully implemented, will clearly blur the line between educators and employers. To achieve this kind of partnership and collaboration, it will be critical for strong, long-lasting relationships to be forged between education entities and employers. The VSOs for years have worked jointly with employers in developing and offering quality programs for their members. Both students and VSO chapter advisors can become integral players in establishing and maintaining new and existing partnerships between educators and employers.

This overview has been prepared from information contained in Vocational Student Organizations and the School-to-Work Opportunities Act of 1994 *and is reprinted with permission.*

APPENDIX

State Contact Personnel for School-to-Work Opportunities

This list, current as of July 1995, was compiled from grant documents submitted to the U.S. Department of Labor. The state offices represented can provide current information on the status of school-to-work opportunities in their respective states.

Alabama
Stephen B. Franks
Department of Education
50 North Ripley St.
Montgomery, AL 36130-3901
205/242-9111
FAX: 205/242-0234

Alaska
James Schlegel
University of Alaska-Anchorage
Anchorage, AK 99775
907/474-7390
FAX: 907/474-7570

Arizona
Lynda Rahi or Barbara Hunter
Office of the Governor
1700 West Washington
Phoenix, AZ 85007
602/542-3461
FAX: 602/542-3520

Arkansas
Jean McEntire
Arkansas Department of Education
Vocational and Technical Education Division
Three Capitol Mall
Little Rock, AR 72201-1083
501/682- 1040
FAX: 501/682- 1509

California
Robert J. Hotchkiss or Wayne Pullen
Employment Development Department
Program and Policy Development Branch
800 Capitol Mall, MIC 88
P.O. Box 826880
Sacramento, CA 94280-0001
916/654-8656
FAX: 916/654-8376

Colorado
Alaine Ginocchio
Governor's Office
136 State Capitol
Denver, CO 80203
303/866-2155
FAX: 303/866-2003

Connecticut
Leslie M. Averna
Department of Education
Bureau of Applied Curriculum,
Technology and Career Information
25 Industrial Park Road
Middletown, CT 06457
203/638-4021
FAX: 203/638-4062

Delaware
Lewis L. Atkinson
Department of Public Instruction
Townsend Building
P.O. Box 1402
Dover, DE 19903
302/739-4638
FAX: 302/739-3744

District of Columbia
Edwin F. Lopez (interim)
Executive Office of the Mayor
Office of Education Affairs
441 4th St., N.W., S-370S
Washington, DC 20001
202/727-0248
FAX: 202/727-0058

Florida
Lynda Hartnig
Department of Education
Capitol Building
Tallahassee, FL 32399
904/921-4430
FAX: 904/487-0419

Georgia
Paul Williams or William Johnson
Office of Planning and Budget
254 Washington St., S.W., Suite 532
Atlanta, GA 30334
404/656-6506
FAX: 404/656-7916

Hawaii
Mildred S. Higashi
Department of Education
P.O. Box 2360
Honolulu, HI 96813
808/586-3446
FAX: 808/586-3429

Idaho
Karen M. Fraley
Division of Vocational Education
P.O. Box 83720
Boise, ID 83720-0095
208/334-3216, Ext. 307
FAX: 208/334-2365

Illinois
Jerry O'Hare
Department of Adult, Vocational and
Technical Education
100 N. First St., E-426
Springfield, IL 62777-0001
217/782-4620
FAX: 217/782-0679

Indiana
Ralph Komasinski
Department of Workforce Development
Indiana Government Center South, SE302
10 North Senate Ave.
Indianapolis, IN 46204
317/233-3919
FAX: 317 /233-4793

Iowa
Harriet Howell Custer (acting)
Division of Community Colleges
Department of Education
Grimes State Office Building
Des Moines, IA 50319-0146
515/281-3599
FAX: 515/281-6544

Kansas
Cindy Luxem
Governor's Office
State Capitol, 2nd Floor
Topeka, KS 66612- 1590
913/296-3232
FAX: 913/296-7973

Kentucky
Beth Brinley or Rodney Kelly
Workforce Development Cabinet
2nd Floor, Capitol Plaza Tower
Frankfort, KY 40601
502/564-6606
FAX: 502/564-6771

Louisiana
Chris W. Weaver
Department of Education
P.O. Box 94064
Baton Rouge, LA 70804-9064
504/342-2897
FAX: 504/342-7856

Maine
Christopher D. Lyons
Department of Education
Division of Applied Technology, Sta. 23
Augusta, ME 04333
207/287-5854
FAX: 207/287-5894

Maryland
Leo Lezzer
Department of Education
200 West Baltimore St.
Baltimore, MD 21401
410/333-2047
FAX: 410/333-2099

Massachusetts
Lisa Blout
Executive Office of Education
One Ashburton Place, Room 1401
Boston, MA 02108
617/727-1313
FAX: 617/727-5570

Michigan
Douglas E. Stites or Cindy Ballard
Michigan Jobs Commission
210 N. Washington Square
Lansing, MI 48913
517/373-6227
FAX: 517/373-0314

Minnesota
John W. Mercer
Department of Education
550 Cedar St.
St. Paul, MN 55101
612/297-3115
FAX: 612/297-7201

Mississippi
Therrell Myers
Department of Education
P.O. Box 771
Jackson, MS 39205-0771
601/359-3088
FAX: 601/359-2326

Missouri
Don Eisinger
Missouri Department of Elementary and Secondary Education
P.O. Box 480
Jefferson City, MO 65102
314/751-7563
FAX: 314/526-6455

Montana
Jane A. Karas
Office of the Commissioner of Higher Education
2500 Broadway
Helena, MT 59620-3101
406/444-0316
FAX: 406/444-0684

Nebraska
Derrald Livingston
Trainco Associates
5818 Bay Meadows Road
Lincoln, NE 68509
402/593-6952
FAX: 402/339-5976

Nevada
Barbara Weinberg
Department of Employment, Training and Rehabilitation
State Job Training Office
400 W. King, Suite 108
Carson City, NV 89710
702/687-4310
FAX: 702/687-3957

New Hampshire
Stephen B. Bos
New Hampshire Job Training Council
64 Old Suncook Road
Concord, NH 03301
603/228-9500
FAX: 603/228-8557

New Jersey
Frances Griffith
New Jersey State Employment and Training Commission
CN940
Trenton, NJ 08625-0823
609/633-0605
FAX: 609/633- 1359

New Mexico
Katherine T. Smith
Office of the Governor
State Capitol
Santa Fe, NM 87503
505/827-3000
FAX: 505/827-3026

New York
Deborah Sale or Miles Wight
Office of the Lieutenant Governor
State Capitol, Room 247
Albany, NY 12224
518/474-4623
FAX: 518/473-2444

North Carolina
Sandra P. Babb
Governor's Commission on Workforce Preparedness
116 West Jones St.
Raleigh, NC 27603-8001
919/715-3300
FAX: 919/715-3974

North Dakota
Dean Monteigh or Reuben Guenthner
State Board for Vocational and Technical Education
State Capitol, 15th Floor
500 East Blvd.
Bismarck, ND 58505
701 /224-3180
FAX: 701/224-3000

Ohio
Ted Smith or Kathleen Faust
Department of Education
65 South Front St.
Columbus, OH 43266-0308
614/466-8644
FAX: 614/752-3956

Oklahoma
Ann Benson
Department of Vocational-Technical Education
1500 West Seventh Ave.
Stillwater, OK 74074-4364
405/743-5436
FAX: 405/743-5541

Oregon
Bill Braly or Bob Burns
Department of Education
255 Capitol St., N.E.
Salem, OR 97310-0203
503/378-3584
FAX: 503/378-5156

Pennsylvania
Jean Wolfe
Department of Education
333 Market St.
Harrisburg, PA 17126-0333
717/787-5820
FAX: 717/787-7222

Puerto Rico
Carmen Otero de McCulloch
Department of Labor
Edificio Prudencio Rivera Martinez
Avenue Munoz Rivera 505, 21st Floor
Hato Rey, PR 00918
809/754-2124
FAX: 809/756-1070

Rhode Island
Miriam Coleman
Department of Employment and Training
101 Friendship St.
Providence, RI 02903-3740
401/277-3930
FAX: 401/277-6999 or
Frank Santoro
Department of Elementary and Secondary Education
22 Hayes St.
Providence, RI 02908
401/277-2691
FAX: 401/277-2537

South Carolina
J. M. "Mac" Rutland
Employment Security Commission
1550 Gadsen St.
P.O. Box 995
Columbia, SC 29202
803/737-2611
FAX: 803/737-2642

South Dakota
Lloyd Schipper
Department of Labor
700 Governors Drive
Pierre, SD 57501
605/773-5017
FAX: 605/773-4211

Tennessee
Kay Nixon
Department of Education
Division of Vocational-Technical Education
Fourth Floor, Gateway Plaza
710 James Robertson Parkway
Nashville, TN 37243
615/532-2815
FAX: 615/532-8226

Texas
Lynda S. Rife
Council on Workforce/Economic Competitiveness
P.O. Box 2241
Austin, TX 78768-2241
512/305-7012
FAX: 512/305-7005

Utah
Robert Brems
Governor's Office and State Office of Education
250 East Fifth South
Salt Lake City, UT 84114
801/538-7841
FAX: 801/538-7868

Vermont
Cynthia R. B. Clancy
Office of the Governor
109 State St.
Montpelier, VT 05609
801/828-3333
FAX: 802/828-3339

Virginia
L. M. Morgan or Dana Hamel
Virginia Department of Education
P.O. Box 2120
Richmond, VA 23216-2120
804/225-2040
FAX: 804/786-5389

Washington
Ellen O'Brien Saunders
Workforce Training and Education Coordinating Board
Airdustrial Park, Bldg. 17
P.O. Box 43105
Olympia, WA 98504-3105
206/753-5660
FAX: 206/586-5862

West Virginia
David A. Mohr
Department of Education and the Arts
1900 Kanawha Blvd., East
Charleston, WV 25305
304/558-2440
FAX: 304/558-1311

Wisconsin
Orlando Canto
Department of Administration
101 East Wilson St., 10th Floor
Madison, WI 53707-7864
608/266-1103
FAX: 608/266-7645

Wyoming
Linda Carter
Department of Education
Hathaway Bldg., 2nd Floor
2300 Capitol Ave.
Cheyenne, WY 82002-0050
307/777-6252
FAX: 307/777-6234

Other Resource Organizations

The organizations listed below are among those across the country that are valuable resources to people planning, implementing or improving school-to-work programs.

Agency for Instructional Technology
Box A
Bloomington, IN 47402-0120
800/457-4509
FAX: 812/333-4218
Provides leadership and service to the education community through the cooperative development, acquisition and distribution of technology-based instructional materials and teachers' guides. Produces Applied Communication curriculum and materials on workplace readiness and staff development for teachers and administrators. Call for a free catalog.

American Society for Training and Development
1640 King St.
Alexandria, VA 22313
703/683-8100
FAX: 703/683-8103
Professional association of people engaged in the training and development of business, industry, education and government employees. Undertakes special research projects and acts as a clearinghouse for current technology, skills training programs, new training theories and their applications.

American Vocational Association
1410 King St.
Alexandria, VA 22314
800/826-9972
FAX: 703/683-7424
Professional association of people involved in all aspects of school-to-work programs. Holds conferences and seminars. Produces many resources on school to work, tech prep, career exploration, workplace trends and training, curriculum and legislation. Call for a free catalog.

Bureau of Apprenticeship and Training
U.S. Department of Labor
Frances Perkins Bldg., Room N4649
200 Constitution Ave., N.W.
Washington, DC 20210
202/219-5921
FAX: 202/219-5011
Provides technical assistance in setting up registered apprenticeship programs.

Center for Occupational Research and Development (CORD)
601 Lake Air Dr.
Waco, TX 76710
800/231-3015
FAX: 817/776-3906
Source of information on tech prep and applied academics curriculum materials, including Principles of Technology, applied math, biology/chemistry. Offers workshops and conferences. Call for a free catalog.

Center for Learning and Competitiveness
School of Public Affairs
University of Maryland
College Park, MD 20742
301/405-6344
FAX: 301/405-6955
Works with American practitioners and policy makers to learn and apply the lessons from the best practices and current trends in career preparation in Europe and elsewhere. Conducts targeted study programs of international systems, leads conferences and seminars in the U.S. and publishes reports highlighting best practices and innovative methods for system reform.

Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, OH 43210
800/848-4815
FAX: 614/292-1260
Seeks to increase the ability of institutions and organizations to solve educational problems relating to individual career planning, preparation and progression. Conducts occupational analyses and staff training programs. Evaluates programs and agencies and provides technical assistance. Researches identified problems or needs. Develops database information systems and curricula. Houses the ERIC Clearinghouse on Adult, Career and Vocational Education. Call for a free catalog.

Ford Academy of Manufacturing Sciences (FAMS)
Ford Motor Company
World Headquarters, Room 307
Dearborn, MI 48121-1899
313/845-3052
FAX: 313/845-5765
800/799-3267 (Materials supplier)
FAX: 810/370-0509 (Materials supplier)
Provides an innovative, two-year program to prepare high school juniors and seniors for careers in manufacturing, engineering and skilled trades. Currently operating in 25 schools in 11 states. Supplies curriculum and other materials to help students learn science, math, technology and communications skills in real-life contexts, and the concepts and skills needed to succeed in careers in manufacturing, engineering and skilled trades. Also offers teacher training sessions.

International Center for Leadership in Education, Inc.
219 Liberty St.
Schenectady, NY 12305
518/377-6878
FAX: 518/372-7544
Offers a variety of resources and services to assist schools and businesses in initiating school-to-work programs, including keynote speakers, publications and video and audio tapes featuring Dr. Willard R. Daggett. Sponsors an annual Model Schools Conference at which school to work is a central focus.

Jobs for the Future
One Bowdoin Square
Boston, MA 02114
617/742-5995
FAX: 617/742-5767
One of the country's leading organizations working on the development of effective transitions from schools to careers for young people. Provides technical assistance to schools and states. Seeks to integrate quality education and worksite learning opportunities. Offers technical assistance and training to educators, executives and policy makers. Conducts research and disseminates results on trends in learning among students and employees. Holds national school-to-work conferences each summer. Call for any kind of assistance.

BEST COPY AVAILABLE

National Academy Foundation
235 Park Ave. South, 7th Floor
New York, NY 10003
800/853-2223
FAX: 212/475-7375
Guides the start-up and implementation of career academies in high schools across America. Provides industry-specific, school-to-work curricula to local academies, helps train high school teachers to teach academy courses, develops collaborations with local and national business partners and provides ongoing assistance to individual academies. To date, NAF has established the Academy of Finance (1982), the Academy of Travel & Tourism (1987) and the Academy of Public Service (1990).

National Alliance of Business
1201 New York Ave., NW, Suite 700
Washington, DC 20005
800/787-2848
FAX: 202/289-2875
A business-led, non-profit organization dedicated to building a competitive American workforce by enhancing the skills and knowledge of workers. Researches and chronicles best practices in school to work, skill standards, education reform and job training. Has developed a training program for businesses interested in starting STW programs and offers an array of STW publications.

National Center on Education and the Economy
700 11th St., NW, Suite 750
Washington, DC 20001
202/783-3668
FAX: 202/783-3672
Seeks to draw public attention to the link between economic growth and the skills and abilities of people who contribute to that growth. Develops and provides technical assistance to educational, training and retraining programs. Sponsors the National Alliance for Restructuring Educational Programs, the New Standards Project and the Workforce Skills Program. Its School-to-Work Transition Program has developed a model fully integrated with labor market systems and high school reform. Produces publications related to a well-trained workforce.

National Center for Research in Vocational Education (NCRVE)
University of California at Berkeley
2150 Shattuck Ave., Suite 1250
Berkeley, CA 94704
800/762-4093
FAX: 510/642-2124
Offers workshops for teachers, administrators and others involved in creating new school-to-career programs. Has ongoing relationships with a network of schools and colleges developing new, high-quality, career-related curricular options. Field consultants are available to advise on specific implementation issues.

NCRVE Materials Distribution Services
Western Illinois University
46 Horrabin Hall
Macomb, IL 61455
800/637-7652
FAX: 309/298-2869
Source of curriculum materials and information on working TPAD programs and other school-to-work models. Call for a free catalog.

National School-to-Work Learning and Information Center
400 Virginia Ave., S.W., Room 210
Washington, DC 20024
800/251-7236
FAX: 202/401-6211
Functions as a national center for synthesizing, communicating and disseminating information on successful STW systems and innovative approaches. Services include a resource bank of select technical assistance providers, an 800-number "answer line," an Internet Home Page/ Information Network, and databases on key STW contacts, organizations and practices. Also offers publications, meetings,conferences and training sessions.

National Skill Standards Board
U.S. Department of Education
330 "C" St., S.W.
Room 4518
Washington, DC 20202-7242
202/260-9576
FAX: 202/205-8793
Provides information on 22 skill standards programs funded by the Departments of Education and Labor and copies of the standards developed by these programs.

Northwest Regional Educational Laboratory
101 SW Main St., Suite 500
Portland, OR 97204
503/275-0445
FAX: 503/275-9489
Features an Education and Work Program that helps schools, community colleges and other agencies improve career development and occupational training, particularly involving the private sector. Specialties include program assessments and evaluations, curriculum development, work-based learning tools and organizing school-to-work conferences.

School & Main
750 Washington St.
NEMCH 328
Boston, MA 02111
617/636-9151
FAX: 617/636-9158
Offers a range of services to states, cities and rural communities that want to develop and enhance local school-to-work systems, including: strategic planning, implementation strategies and continuous improvement assistance.

Siemens Corporation
1301 Avenue of the Americas
New York, NY 10019
212/258-4046
FAX: 212/258-4500
Will work with high schools and community colleges on a broad range of programs, with emphasis on youth and adult apprenticeships, in 70 U.S. cities where Siemens has factories. Shares information and does presentations on the value of school to work. Cooperates with the National Employers Leadership Council in developing business support for school-to-work programs.

Southern Regional Education Board
592 Tenth St., NW
Atlanta, GA 30318-5790
404/875-9211
FAX: 404/872-1477
SREB's *High Schools That Work* program is the nation's largest and fastest growing initiative aimed at raising career-bound students' achievement. The program includes over 450 sites in 19 states. HSTW produces a wide range of materials related to school to work. Holds an annual HSTW Staff Development Conference each summer.

National Vocational Student Organizations

Business Professionals of America
5454 Cleveland Avenue
Columbus, OH 43231
(614) 895-7277

Distributive Education Clubs of America
1908 Association Drive
Reston, VA 22091
(703) 860-5000

Future Business Leaders of America
Phi Beta Lambda
1912 Association Drive
Reston, VA 22091
(703) 860-3334

National FFA Organization
P. O. Box 15160
5632 Mt. Vernon Memorial Highway
Alexandria, VA 22309
(703) 360-3600

Future Homemakers of America/Home
Economics Related Occupations
1910 Association Drive
Reston, VA 22091
(703) 476-4900

Health Occupations Students of America
6309 North O'Connor Road
Suite 215
Irving, TX 75039
(214) 506-9780

National Postsecondary Agricultural Student Organization
Agriculture and Technical College
Cobleskill, NY 12043
(518) 234-5571

National Young Farmers Education Association
P. O. Box 15160
5632 Mt. Vernon Memorial Highway
Alexandria, VA 22309
(Executive Director can be contacted at 334-288-0097)

Technology Student Association
1914 Association Drive
Reston, VA 22091
(703) 860-9000

Vocational Industrial Clubs of America
P. O. Box 3000
Leesburg, VA 22075
(703) 777-8810

BEST COPY AVAILABLE

State Resource Centers

These state centers are part of the National Network for Curriculum Coordination (NNCC). They serve as resources for school-to-work programs in their states.

Alabama
Vocational Curriculum, Research and
Evaluation Unit
Room 5234
Gordon Persons Building
50 N. Ripley St.
P.O. Box 302101
Montgomery, AL 36130-2101
334/242-9108
FAX: 334/242-0234

Alaska
Alaska Vocational Materials Library
Alaska Department of Education
Adult and Vocational Education
801 W. 10th St., Suite 200
Juneau, AK 99801
907/465-8729
FAX: 907/465-2982

Arizona
Institute for Future Workforce Development
P.O. Box 6025
Northern Arizona University
Flagstaff, AZ 86011
520/523-5442
FAX: 520/523-6395

Arkansas
Arkansas Vocational Curriculum
Dissemination Center
University of Arkansas
Graduate Education Building
Room 115 Fayetteville, AR 72701 - 1201
501/575-6608
800/632-8754 (Arkansas)
FAX: 501 /575-4681

Colorado
Career & Technical Education Resource
Center of Colorado
9125 E. 10th Dr.
Building 859 Lowry
Aurora, CO 80010
303/340-7350
FAX: 303/340-7353

Federated State of Micronesia
Department of Education
Office of the Secretary
P.O. Box PS87
FSM National Government
Palikir, Pohnpei FM 96941
011 691/320-2609
FAX: 011 691/320-5500

Georgia
Vocational Education Curriculum Center
Route 3, Box 232-A
Ellijay, GA 30540
706/276-1111
FAX: 706/276-1114

Guam
School of Technology & Human Resources
Guam Community College
Guam Main Facility
P.O. Box 23069
Guam, Mariana Islands GU 96921
011 671/735-5591
FAX: 011 671/734-4014

Hawaii
Hawaii Vocational Curriculum Center
University of Hawaii
Wist Hall 216
1776 University Ave.
Honolulu, HI 96849-0001
808/956-7834
FAX: 808/956-3374

Idaho
Idaho Vocational Curriculum Dissemination
Center
College of Education, 209
University of Idaho
Moscow, ID 83844-3083
208/885-6556
FAX: 208/885-6869

Illinois
Illinois State Curriculum Center
University of Illinois at Springfield, K-80
Springfield, IL 62794-9243
800/252-4822
FAX: 217/786-6036

Indiana
Indiana Literacy and Technical
Education Resource Center
140 N. Senate Ave., Room 208
Indianapolis, IN 46204
317/233-5200
800/233-4572 (Indiana)
FAX: 317/233-5333

Kansas
Kansas Competency-Based
Curriculum Center
Benton Hall - 412
Washburn University-SAS
1700 College
Topeka, KS 66621
913/231-1010, Ext. 1534
FAX: 913/231 - 1027

Louisiana
Louisiana Technical Resource Center
P.O. Box 1159
Natchitoches, LA 71458- 1159
318/357-3155
FAX: 318/357-3108

Maine
Curriculum Resource Center of Maine
Kennebec Valley Technical College
92 Western Ave.
Fairfield, ME 04937-0029
207/453-5170
FAX: 207/453-5197

Massachusetts
Massachusetts Vocational Curriculum
Resource Center
758 Marrett Road
Lexington, MA 01273-7398
617/863- 1863
800/356-8272 (Massachusetts)
FAX: 617/863-9965

Michigan
Michigan Center for Career and Technical
Education
133 Erickson Hall
Michigan State University
East Lansing, MI 48824
517/353-4397
800/292- 1606 (Michigan)
FAX: 517/432-2931

Minnesota
Minnesota Educational Services at Capitol
View Center
70 W. County Road B-2
Little Canada, MN 55117- 1402
612/483-4442
800/652-9024 (Minnesota)
800/848-4912 (National)
FAX: 612/483-0234

Mississippi
Mississippi Research and Curriculum
Unit Resource Center
P.O. Drawer NU
Mississippi State, MS 39762
601/325-2510
FAX: 601/325-3296

Missouri
Instructional Materials Laboratory
Missouri Vocational Resource Center
8 London Hall
University of Missouri
Columbia, MO 65211 -0001
314/882-2884
800/392-7217 (Missouri)
800/669-2465 (National)
FAX: 314/882-9935

Montana
Montana Center for Research, Curriculum
and Personnel Development
Northern Montana College
Box 7751
Havre, MT 59501
406/265-3726
FAX: 406/265-3777

Nebraska
Nebraska Vocational Curriculum Resource
Center
University of Nebraska at Kearney
West Center, W206
Kearney, NE 68849
308/865-8462
FAX: 308/865-8669

New Hampshire
Learning Resources Center
Mason Library
Keene State College
Keene, NH 03435-3201
603/358-2750
FAX: 603/358-2743

New Jersey
New Jersey State Department of Education
Crest Way
Aberdeen, NJ 07747
908/290-1900
FAX: 908/290-9678

New Mexico
Vocational Information and Program Services Project
NNMCC-El Rito Campus
El Rito, NM 87530
505/581-4157
800/649-1700 (New Mexico)
FAX: 505/581-4159

North Dakota
North Dakota Vocational Curriculum Library
Bismarck State College
1500 Edwards Ave.
Bismarck, ND 58501
701/224-5487
FAX: 701/224-5551

Northern Marianas
Public School System
P.O. Box 1370 CK
Commonwealth of the Northern Marianas
Saipan, MP 96950
011 670/288-0693
FAX: 011 670/288-0690

Ohio
Ohio Agricultural Education Curriculum Materials Service
254 Agricultural Administration Building
The Ohio State University
2120 Fyffe Road
Columbus, OH 43210-1067
614/292-4848
800/292-4919
Vocational Instructional Materials Laboratory
Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, OH 43210
800/848-4815
FAX: 614/292-1260

Oklahoma
Oklahoma Department of Vocational and Technical Education Resource Center
1500 W. 7th Ave.
Stillwater, OK 74074-4364
405/743-5423
FAX: 405/743-5142

Pennsylvania
PDE Resource Center
Vocational Education Information Network
Pennsylvania Department of Education
333 Market St.
Harrisburg, PA 17126-0333
717/783-9192
800/992-2283 (Pennsylvania)
FAX: 717/783-5420

Puerto Rico
Division of Vocational Education
Puerto Rico Department of Education
P.O. Box 190179
San Juan, PR 00919-0759
809/759-9759
FAX: 809/763-5355

Republic of Palau
Bureau of Curriculum and Instruction
Ministry of Education
P.O. Box 1346
Koror, PW 96940
011 680/488-2570
FAX: 011 680/488-2830

Republic of the Marshall Islands
Ministry of Education
P.O. Box 3
Majuro, MH 96960
011 692/625-3202
FAX: 011 692/625-3861

South Carolina
Curriculum Development Section
Office of Occupational Education
1831 Barnwell St.
Columbia, SC 29201
803/253-4029
FAX: 803/253-4035

South Dakota
South Dakota Curriculum Center
435 S. Chapelle
Pierre, SD 57501-3210
605/224-6287
FAX: 605/224-8320

Tennessee
Division of Vocational-Technical Education Curriculum Center
Tennessee Department of Education
Gateway Plaza Building
710 James Robertson Parkway, 4th Floor
Nashville, TN 37243-0383
615/532-2837
FAX: 615/532-8226

Texas
Instructional Materials Service
Texas A & M University
College Station, TX 77843-2588
409/845-6601
FAX: 409/845-6608

Utah
Utah Applied Technology Resource Center
3305 S. 5th East
Salt Lake City, UT 84106
801/481-7259
FAX: 801/481-7167

Vermont
Vermont Home Economics Resource Materials
Oxbow Vocational Center
P.O. Box 618
Bradford, VT 05033
802/222-5212, Ext. 32
FAX: 802/222-9002

Virgin Islands
Virgin Islands Department of Education
P.O. Box 6640
Charlotte Amalie, VI 00801
809/774-3366
FAX: 809/774-4917

Virginia
Virginia Vocational Curriculum and Resource Center
2200 Mountain Road
Glen Allen, VA 23060-2208
804/261-5075
FAX: 804/261-5079

Washington
Clover Park Technical College
4500 Steilacoom Blvd., S.W.
Tacoma, WA 98499-4098
206/589-5764
FAX: 206/589-5503

West Virginia
Curriculum Technology Resource Center
Cedar Lakes Conference Center
Ripley, WV 25271
304/372-7874
800/982-5627 (West Virginia)
FAX: 304/372-7875

Wisconsin
Center on Education and Work
University of Wisconsin-Madison
964 Educational Sciences Bldg.
1025 W. Johnson St.
Madison, WI 53706
608/263-3696
800/446-0399
FAX: 608/262-9197

SUCCESSFUL STRATEGIES: BUILDING A SCHOOL-TO-CAREERS SYSTEM
ORDER FORM

To order additional copies of this publication, please complete the form below and mail with payment to: American Vocational Association, 1410 King Street, Alexandria, VA 22314.

Ship to Address: ____________________

Bill to Address: ____________________

Telephone: ____________________

Membership #: ____________________

PLEASE SEND ME:

☐ **Single Copy**	**Member Price: $59**	**Non-Member Price: $79**
☐ **Staff Pak (5 copies of Successful Strategies)**	**Member Price: $199**	**Non-Member Price: $299**

Quantity ______ x Price (Member or Non-Member = $ ____________________

Plus shipping/handling (9% of order, but not less than $5) $ ____________________

4.5% sales tax (VA Residents Only)* $ ____________________

Total Amount Enclosed $ ____________________

**If you are tax exempt, you must provide a copy of your tax exemption letter.*

METHOD OF PAYMENT:

☐ Check/Money order (payable to AVA)

☐ Purchase order number ($50 minimum order) ____________________

☐ Visa ☐ MasterCard ☐ Discover

Card # ____________________ Exp. Date: ____________________

Signature ____________________

NOTE: Foreign orders are welcome, but must be pre-paid in U.S. dollars.

QUANTITY DISCOUNT:
(10-19) 10% off list price (20+) 20% off list price

THREE WAYS TO ORDER:

❶ **By Phone**
1-800-826-9972 ext. 317

❷ **By Fax**
1-703-683-7424

❸ **Mail Orders to:**
AVA Product Sales
1410 King Street
Alexandria, VA 22314

SUCGUI

SUCCESSFUL EDUCATORS WHO'VE CREATED STELLAR SCHOOL-TO-CAREERS SYSTEMS OFFER HELP ON:

- ➤ Forming a local partnership and writing a plan
- ➤ Developing a curriculum
- ➤ Using skill standards and skill certificates
- ➤ Creating paid work opportunities
- ➤ Providing professional development for staff
- ➤ Ensuring equity in school-to-work systems
- ➤ Marketing and evaluating your programs

AVA
American Vocational Association
1410 King Street
Alexandria, VA 22314
(800) 826-9972